US Army Corps
of Engineers®
Vicksburg District

Pearl River Watershed
Mississippi

Feasibility
Cost Sharing Agreement
And Project Management Plan

Rankin-Hinds Pearl River
Flood and Drainage
Control District

U. S. Army
Corps of Engineers
Vicksburg District

OCTOBER 2003

PEARL RIVER WATERSHED, MISSISSIPPI
FEASIBILITY COST-SHARING AGREEMENT
AND
PROJECT MANAGEMENT PLAN

AGREEMENT
BETWEEN THE DEPARTMENT OF THE ARMY
AND
THE RANKIN-HINDS PEARL RIVER FLOOD AND DRAINAGE CONTROL DISTRICT
FOR THE PEARL RIVER WATERSHED, MISSISSIPPI, FEASIBILITY STUDY

THIS AGREEMENT is entered into this 15th day, of Oct, 2003 by and between the Department of the Army (hereinafter the "Government"), represented by the District Engineer executing this Agreement, and the Rankin-Hinds Pearl River Flood and Drainage Control District (hereinafter the "Sponsor"),

WITNESSETH, that

WHEREAS, the Congress Senate and House Committees have authorized the U.S. Army Corps of Engineers to conduct a study and review of earlier reports to determine whether any further alternative improvements for flood damage prevention in the Pearl River Watershed Area, Mississippi, are warranted, advisable, viable, and locally supported pursuant to the resolution of the House of Representatives Committee on Public Works and Transportation and Senate Committee on Environment and Public Works adopted May 9, 1979; and

WHEREAS, the U.S. Army Corps of Engineers has conducted a reconnaissance study of flood damages in the Pearl River Watershed area and completed a draft feasibility report recommending a feasible levee alternative that ultimately lacked local support for implementation pursuant to this authority, and has determined that further study in the nature of a "Feasibility Phase Study" (hereinafter the "Study") is required to fulfill the intent of the study authority and to assess the extent of the Federal interest in participating in a solution to the identified problem; and

WHEREAS, Section 105 of the Water Resources Development Act of 1986 (Public Law 99-662, as amended) specifies the cost sharing requirements applicable to the Study;

WHEREAS, the Sponsor has the authority and capability to furnish the cooperation hereinafter set forth and is willing to participate in study cost sharing and financing in accordance with the terms of this Agreement; and

WHEREAS, the Sponsor and the Government understand that entering into this Agreement in no way obligates either party to implement a project and that whether the Government supports a project authorization and budgets it for implementation depends upon, among other things, the outcome of the Study and whether the proposed solution is consistent with the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies and with the budget priorities of the Administration;

NOW THEREFORE, the parties agree as follows:

ARTICLE I - DEFINITIONS

For the purposes of this Agreement:

A. The term "Study Costs" shall mean all disbursements by the Government pursuant to this Agreement, from Federal appropriations or from funds made available to the Government by the Sponsor, and all negotiated costs of work performed by the Sponsor pursuant to this Agreement. Study Costs shall include, but not be limited to: labor charges; direct costs; overhead expenses; supervision and administration costs; the costs of participation in Study Management and Coordination in accordance with Article IV of this Agreement; the costs of contracts with third parties, including termination or suspension charges; and any termination or suspension costs (ordinarily defined as those costs necessary to terminate ongoing contracts or obligations and to properly safeguard the work already accomplished) associated with this Agreement.

B. The term "estimated Study Costs" shall mean the estimated cost of performing the Study as of the effective date of this Agreement, as specified in Article III.A. of this Agreement.

C. The term "excess Study Costs" shall mean Study Costs that exceed the estimated Study Costs and that do not result from mutual agreement of the parties, a change in Federal law that increases the cost of the Study, or a change in the scope of the Study requested by the Sponsor.

D. The term "study period" shall mean the time period for conducting the Study, commencing with the release to the U.S. Army Corps of Engineers, Vicksburg District, of initial Federal feasibility funds following the execution of this Agreement and ending when the Assistant Secretary of the Army (Civil Works) submits the feasibility report to the Office of Management and Budget (OMB) for review for consistency with the policies and programs of the President.

E. The term "PMP" shall mean the Project Management Plan, which is attached to this Agreement and which shall not be considered binding on either party and is subject to change by the Government, in consultation with the Sponsor.

F. The term "negotiated costs" shall mean the costs of in-kind services to be provided by the Sponsor in accordance with the PMP.

G. The term "fiscal year" shall mean one fiscal year of the Government. The Government fiscal year begins on October 1 and ends on September 30.

ARTICLE II - OBLIGATIONS OF PARTIES

A. The Government, using funds and in-kind services provided by the Sponsor and funds appropriated by the Congress of the United States, shall expeditiously prosecute and complete the Study, in accordance with the provisions of this Agreement and Federal laws, regulations, and policies.

B. In accordance with this Article and Article III.A., III.B. and III.C. of this Agreement, the Sponsor shall contribute cash and in-kind services equal to fifty (50) percent of Study Costs other than excess Study Costs. The Sponsor may, consistent with applicable law and regulations, contribute up to 50 percent of Study Costs through the provision of in-kind services. The in-kind

services to be provided by the Sponsor, the estimated negotiated costs for those services, and the estimated schedule under which those services are to be provided are specified in the PMP. Negotiated costs shall be subject to an audit by the Government to determine reasonableness, allocability, and allowability.

C. The Sponsor shall pay a fifty (50) percent share of excess Study Costs in accordance with Article III.D. of this Agreement.

D. The Sponsor understands that the schedule of work may require the Sponsor to provide cash or in-kind services at a rate that may result in the Sponsor temporarily diverging from the obligations concerning cash and in-kind services specified in paragraph B. of this Article. Such temporary divergences shall be identified in the quarterly reports provided for in Article III.A. of this Agreement and shall not alter the obligations concerning costs and services specified in paragraph B. of this Article or the obligations concerning payment specified in Article III of this Agreement.

E. If, upon the award of any contract or the performance of any in-house work for the Study by the Government or the Sponsor, cumulative financial obligations of the Government and the Sponsor would result in excess Study Costs, the Government and the Sponsor agree to defer award of that and all subsequent contracts, and performance of that and all subsequent in-house work, for the Study until the Government and the Sponsor agree to proceed. Should the Government and the sponsor require time to arrive at a decision, the Agreement will be suspended in accordance with Article X., for a period of not to exceed six months. In the event the Government and the sponsor have not reached an agreement to proceed by the end of their 6-month period, the Agreement may be subject to termination in accordance with Article X.

F. No Federal funds may be used to meet the Sponsor's share of Study Costs unless the Federal granting agency verifies in writing that the expenditure of such funds is expressly authorized by statute.

G. The award and management of any contract with a third party in furtherance of this Agreement which obligates Federal appropriations shall be exclusively within the control of the Government. The award and management of any contract by the Sponsor with a third party in furtherance of this Agreement which obligates funds of the Sponsor and does not obligate Federal appropriations shall be exclusively within the control of the Sponsor, but shall be subject to applicable Federal laws and regulations.

H. The Sponsor shall be responsible for the total cost of developing a response plan for addressing any hazardous substances regulated under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Pub. L. No. 96-510, 94 Stat. 2767, (codified at 42 U.S.C. Sections 9601-9675), as amended, existing in, on, or under any lands, easements or rights-of-way that the Government determines to be required for the construction, operation, and maintenance of the project. Such costs shall not be included in total study costs.

ARTICLE III - METHOD OF PAYMENT

A. The Government shall maintain current records of contributions provided by the parties, current projections of Study Costs, current projections of each party's share of Study Costs, and current projections of the amount of Study Costs that will result in excess Study Costs. At least quarterly, the Government shall provide the Sponsor a report setting forth this information. As of the effective date of this Agreement, estimated Study Costs are $2,850,000 and the Sponsor's share of estimated Study Costs is $1,425,000. In order to meet the Sponsor's cash payment requirements for its share of estimated Study Costs, the Sponsor must provide a cash contribution currently estimated to be $97,750. The dollar amounts set forth in this Article are based upon the Government's best estimates, which reflect the scope of the study described in the PMP, projected costs, price-level changes, and anticipated inflation. Such cost estimates are subject to adjustment by the Government and are not to be construed as the total financial responsibilities of the Government and the Sponsor.

B. The Sponsor shall provide its cash contribution required under Article II.B. of this Agreement in accordance with the following provisions:

1. For purposes of budget planning, the Government shall notify the Sponsor by July 31 of each year of the estimated funds that will be required from the Sponsor to meet the Sponsor's share of Study Costs for the upcoming fiscal year.

2. No later than 60 calendar days prior to the scheduled date for the Government's issuance of the solicitation for the first contract for the Study or for the Government's anticipated first significant in-house expenditure for the Study, the Government shall notify the Sponsor in writing of the funds the Government determines to be required from the Sponsor to meet its required share of Study Costs for the first fiscal year of the Study. No later than 30 calendar days thereafter, the Sponsor shall verify to the satisfaction of the Government that the Sponsor has deposited the required funds in an escrow or other account acceptable to the Government, with interest accruing to the Sponsor.

3. For the second and subsequent fiscal years of the Study, the Government shall, no later than 60 calendar days prior to the beginning of the fiscal year, notify the Sponsor in writing of the funds the Government determines to be required from the Sponsor to meet its required share of Study Costs for that fiscal year, taking into account any temporary divergences identified under Article II.D of this Agreement. No later than 30 calendar days prior to the beginning of the fiscal year, the Sponsor shall make the full amount of the required funds available to the Government through the funding mechanism specified in paragraph B.2. of this Article.

4. The Government shall draw from the escrow or other account provided by the Sponsor such sums as the Government deems necessary to cover the Sponsor's share of contractual and in-house fiscal obligations attributable to the Study as they are incurred.

5. In the event the Government determines that the Sponsor must provide additional funds to meet its share of Study Costs, the Government shall so notify the Sponsor in writing. No later than 60 calendar days after receipt of such notice, the Sponsor shall make the full amount of the additional required funds available through the funding mechanism specified in paragraph B.2. of this Article.

C. Within ninety (90) days after the conclusion of the Study Period or termination of this Agreement, the Government shall conduct a final accounting of Study Costs, including disbursements by the Government of Federal funds, cash contributions by the Sponsor, the amount of any excess Study Costs, and credits for the negotiated costs of the Sponsor, and shall furnish the Sponsor with the results of this accounting. Within thirty (30) days thereafter, the Government, subject to the availability of funds, shall reimburse the Sponsor for the excess, if any, of cash contributions and credits given over its required share of Study Costs, other than excess Study Costs, or the Sponsor shall provide the Government any cash contributions required for the Sponsor to meet its required share of Study Costs other than excess Study Costs.

D. The Sponsor shall provide its cash contribution for excess Study Costs as required under Article II.C. of this Agreement by delivering a check payable to "FAO, USAED, Vicksburg (B4)" to the District Engineer as follows:

1. After the project that is the subject of this Study has been authorized for construction, no later than the date on which a Project Cooperation Agreement is entered into for the project; or

2. In the event the project that is the subject of this Study is not authorized for construction by a date that is no later than 5 years of the date of the final report of the Chief of Engineers concerning the project, or by a date that is no later than 2 years after the date of the termination of the study, the Sponsor shall pay its share of excess costs on that date (5 years after the date of the Chief of Engineers or 2 year after the date of the termination of the study).

ARTICLE IV - STUDY MANAGEMENT AND COORDINATION

A. To provide for consistent and effective communication, the Sponsor and the Government shall appoint named senior representatives to an Executive Committee. Thereafter, the Executive Committee shall meet regularly until the end of the Study Period.

B. Until the end of the Study Period, the Executive Committee shall generally oversee the Study consistently with the PMP.

C. The Executive Committee may make recommendations that it deems warranted to the District Engineer on matters that it oversees, including suggestions to avoid potential sources of dispute. The Government in good faith shall consider such recommendations. The Government has the discretion to accept, reject, or modify the Executive Committee's recommendations.

D. The Executive Committee shall appoint representatives to serve on a Study Management Team. The Study Management Team shall keep the Executive Committee informed of the progress of the Study and of significant pending issues and actions, and shall prepare periodic reports on the progress of all work items identified in the PMP.

E. The costs of participation in the Executive Committee (including the cost to serve on the Study Management Team) shall be included in total project costs and cost shared in accordance with the provisions of this Agreement.

ARTICLE V - DISPUTES

As a condition precedent to a party bringing any suit for breach of this Agreement, that party must first notify the other party in writing of the nature of the purported breach and seek in good faith to resolve the dispute through negotiation. If the parties cannot resolve the dispute through negotiation, they may agree to a mutually acceptable method of non-binding alternative dispute resolution with a qualified third party acceptable to both parties. The parties shall each pay 50 percent of any costs for the services provided by such a third party as such costs are incurred. Such costs shall not be included in Study Costs. The existence of a dispute shall not excuse the parties from performance pursuant to this Agreement.

ARTICLE VI - MAINTENANCE OF RECORDS

A. Within 60 days of the effective date of this Agreement, the Government and the Sponsor shall develop procedures for keeping books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to this Agreement to the extent and in such detail as will properly reflect total Study Costs. These procedures shall incorporate, and apply as appropriate, the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to state and local governments at 32 C.F.R. Section 33.20. The Government and the Sponsor shall maintain such books, records, documents, and other evidence in accordance with these procedures for a minimum of three years after completion of the Study and resolution of all relevant claims arising therefrom. To the extent permitted under applicable Federal laws and regulations, the Government and the Sponsor shall each allow the other to inspect such books, documents, records, and other evidence.

B. In accordance with 31 U.S.C. Section 7503, the Government may conduct audits in addition to any audit that the Sponsor is required to conduct under the Single Audit Act of 1984, 31 U.S.C. Sections 7501-7507. Any such Government audits shall be conducted in accordance with Government Auditing Standards and the cost principles in OMB Circular No. A-87 and other applicable cost principles and regulations. The costs of Government audits shall be included in total Study Costs and shared in accordance with the provisions of this Agreement.

ARTICLE VII - RELATIONSHIP OF PARTIES

The Government and the Sponsor act in independent capacities in the performance of their respective rights and obligations under this Agreement, and neither is to be considered the officer, agent, or employee of the other.

ARTICLE VIII - OFFICIALS NOT TO BENEFIT

No member of or delegate to the Congress, nor any resident commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom.

ARTICLE IX - FEDERAL AND STATE LAWS

In the exercise of the Sponsor's rights and obligations under this Agreement, the Sponsor agrees to comply with all applicable Federal and State laws and regulations, including Section 601 of Title VI of the Civil Rights Act of 1964 (Public Law 88-352) and Department of Defense Directive 5500.11 issued pursuant thereto and published in 32 C.F.R. Part 195, as well as Army Regulations 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army".

ARTICLE X - TERMINATION OR SUSPENSION

A. This Agreement shall terminate at the conclusion of the Study Period, and neither the Government nor the Sponsor shall have any further obligations hereunder, except as provided in Article III.C.; provided, that prior to such time and upon thirty (30) days written notice, either party may terminate or suspend this Agreement. In addition, the Government shall terminate this Agreement immediately upon any failure of the parties to agree to extend the study under Article II.E. of this agreement, or upon the failure of the sponsor to fulfill its obligation under Article III. of this Agreement. In the event that either party elects to terminate this Agreement, both parties shall conclude their activities relating to the Study and proceed to a final accounting in accordance with Article III.C. and III.D. of this Agreement. Upon termination of this Agreement, all data and information generated as part of the Study shall be made available to both parties.

B. Any termination of this Agreement shall not relieve the parties of liability for any obligations previously incurred,
including the costs of closing out or transferring any existing contracts.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement, which shall become effective upon the date it is signed by the District Engineer for the U.S. Army Corps of Engineers, Vicksburg District.

DEPARTMENT OF THE ARMY

BY _____
Colonel, Corps of Engineers
District Engineer
Vicksburg District

RANKIN-HINDS PEARL RIVER FLOOD AND DRAINAGE CONTROL DISTRICT

BY _____
Billy Orr, Chairman

CERTIFICATION REGARDING LOBBYING

1. The undersigned certifies, to the best of his or her knowledge and belief that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

c. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Billy Orr
Chairman, Rankin-Hinds Pearl River Flood and Drainage Control District

DATE: 10/6/03

CERTIFICATION OF LEGAL REVIEW

The draft Feasibility Cost-Sharing Agreement for the Pearl River Watershed, Mississippi, has been fully reviewed by the Office of Counsel, U.S. Army Corps of Engineers, Vicksburg District, and is legally sufficient.

District Counsel

PEARL RIVER WATERSHED, MISSISSIPPI
PROJECT MANAGEMENT PLAN

SEPTEMBER 2003

PEARL RIVER WATERSHED, MISSISSIPPI

PROJECT MANAGEMENT PLAN

This plan has been prepared in accordance with the following guidance:

a. Engineer Regulation (ER) 5-1-11 (F.R.), "Management, U.S. Army Corps of Engineers Business Process"

b. ER 1105-2-100, "Guidance for Conducting Civil Works Planning Studies."

c. ER 1110-2-150, "Engineering and Design for Civil Works Projects."

d. ER 405-1-12, "Draft Chapter 12-Real Estate Handbook."

e. EC 1105-2-208, "Preparation and Use of Project Study Plans."

Presented for Approval by:

Douglas J. Kamien, P.E.
Chief, Planning, Programs, and
Project Management Division

Approved by Project Review Board:

Chief, Engineering Division

Robert H. Fitzgerald

Chief, Construction Division

Leo Phillips

Chief, Operations Division

William B. Hobgood

Chief, Real Estate Division

Burke S. Torrey

Chief, Vicksburg Consolidated
Contracting Office

Mack Ross

Chief, Office of Counsel

Henry Black

Chief, Resource Management Office

Al Cannada

Chairman, Rankin-Hinds Pearl River Flood
and Drainage Control District

Billy Orr

6 Oct 2003
(Date)

PEARL RIVER WATERSHED, MISSISSIPPI
PROJECT MANAGEMENT PLAN

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PEARL RIVER WATERSHED, MISSISSIPPI

PROJECT MANAGEMENT PLAN

SEPTEMBER 2003

INTRODUCTION

1. The Project Management Plan (PMP) is a plan of study which is used to define and manage the development and conduct of a feasibility study. This PMP documents the assumptions, work tasks, products, and the level of detail that will be necessary during the feasibility study to determine existing and future without-project conditions; formulate a range of alternatives; assess their effects; and present a clear rationale for the selection of a feasible plan. The PMP also provides District management a mechanism for cost and schedule control, establishes the basis for changes, promotes internal communications, and minimizes potential review problems of the feasibility study.

2. The PMP includes all of the requirements to complete a feasibility study for the Pearl River Watershed, Mississippi, study area. The feasibility study will describe the problems and opportunities of the study area relative to flood damage reduction and will evaluate alternatives which meet Federal, environmental, and economic criteria. The alternatives will be evaluated at a level to determine the maximum net economic development benefits and assess the environmental and social effects of the selected plan.

3. The information provided in the PMP was developed through meetings with the Rankin-Hinds Pearl River Flood and Drainage Control District, and other Federal, state, and local agencies.

STUDY AUTHORITY

4. Studies of the Pearl River Watershed, Mississippi, were authorized by congressional resolutions adopted 9 May 1979. These authorizations read as follows:

> "Resolved by the Committee on Public Works and Transportation of the House of Representatives, United States, That the Board of Engineers for Rivers and Harbors is hereby requested to review the reports of the Chief of Engineers on Pearl River Basin, Mississippi and Louisiana, published as House Document Number 282, Ninety-Second Congress, Second Session, and other pertinent reports, with a particular view toward determining whether any further improvements for flood damage prevention and related purposes are advisable at this time. The alternatives are to be reviewed with local interests to insure a viable, locally supported project.

Resolved by the Committee on Public Works and Transportation of the House of Representatives, United States, That the Board of Engineers for Rivers and Harbors is hereby requested to review the report of the Chief of Engineers on the Pearl River and Tributaries, Mississippi, contained in House Document 441, 86th Congress, and other reports with a view to determining whether measures for prevention of flood damages and related purposes are advisable at this time, in Rankin County, Mississippi.

Resolved by the Committee on Environment and Public Works of the United States Senate, That the Board of Engineers for Rivers and Harbors, created under Section 3 of the River and Harbor Act, approved June 13, 1902, and is hereby requested to review the reports of the Chief of Engineers on Pearl River Basin, Mississippi and Louisiana submitted in House Document Numbered 92-282, 92nd Congress, 2nd Session and other pertinent reports with a view to determining whether any further improvements for flood damage prevention and related purposes are warranted at this time."

LOCATION AND DESCRIPTION OF THE STUDY AREA

5. The Pearl River Basin is located in the south-central portion of Mississippi and in a small part of southeastern Louisiana. The river drains an area of 8,760 square miles consisting of all or parts of 23 counties in Mississippi and parts of 3 Louisiana parishes. The Basin has a maximum length of 240 miles and a maximum width of 50 miles. It is bounded on the north by the Tombigbee River Basin, on the east by the Pascagoula River Basin, on the south by Lake Borgne and the Mississippi Sound, and on the west by the Mississippi River Basin and several coastal streams which drain the eastern portion of Louisiana. There are numerous lakes within the Basin, but only a few of significant size. The largest of these is Ross Barnett Reservoir, which is located on the Pearl River about 12 miles northeast of downtown Jackson.

6. The primary study area comprises the Pearl River Basin between River Mile (RM) 270.0 just south of Byram, Mississippi, and RM 301.77 at the dam of Ross Barnett Reservoir. Municipalities within the study area include Jackson, Flowood, Pearl, and Richland. Jackson is the capital of Mississippi. The study area includes parts of three counties--Madison, Hinds, and Rankin. Major tributaries of the Pearl River within the study area include Richland, Caney, Lynch, Town, and Hanging Moss Creeks. This area is shown on Plate 1.

7. The study area is primarily affected by headwater flooding caused by the Pearl River. Headwater flooding is caused by unusually heavy and intense rainfall over the upper Pearl River Basin.

8. Prior to 1979, the flood of record was the 1902 flood which had a recorded peak discharge of 85,000 cubic feet per second (cfs) at the Jackson gage. The modern day flood of record had occurred in 1961 with a peak discharge of 66,000 cfs. These record flood levels were far surpassed by the events of 1979 and 1983. The worst flood in Jackson's history occurred in

1979. In a 2-day period between 12-13 April, rainfall in amounts measuring up to 19.6 inches fell over the headwaters of the Basin. The resulting flood had an estimated peak flow of 160,000 cfs into the Ross Barnett project. Regulation of Ross Barnett reduced the peak flow by 17,000 cfs and valley storage in the reservoir further reduced the peak flow down to 128,000 cfs measured at the gage in Jackson. Nevertheless, flood damages in Jackson were devastating. In May 1983, another severe rainfall in the upper Basin generated a peak inflow into the Barnett project of 117,000 cfs which with regulation with Ross Barnett and valley storage in the reservoir resulted in a peak flow of 78,000 cfs at the Jackson gage. The frequencies of the 1979 and 1983 flood events are estimated to be respectively, 500-year and 110-year floods into the Barnett project and 200- and 35-year flood events at the Jackson gage. Because of the severity of these two floods, other floods which occurred between 1979 and 1983 are rarely mentioned. For the record, floods with frequencies of 5 to 10 years occurred on 21 March 1980, 14-17 April 1981, 6 December 1982, and 8-9 April 1983. This repeated flooding over the 4-year period caused a great deal of trauma to the citizens of Jackson, and explains their intense interest in flood control.

9. During the 1979 flood, there were 1,935 houses and 775 business flooded. Damages to these properties were especially severe because the river was above flood stage from 10 to 14 days in some areas. This caused serious disruptions to transportation and communications and stymied the capital city for weeks. In fact, many of the flood victims interviewed indicated that it took 6 months to 1 year for things to get back to normal.

10. The total physical property damage caused by the 1979 flood was estimated at $233 million in 1979 dollars. Although this flood was devastating, it should be emphasized that it could have been much worse if it were not for some well-executed emergency flood-fighting activities. First, the Ross Barnett project, a water supply and recreation lake with no dedicated flood control storage, was used beyond its normal limits to regulate floodflows and reduce the peak flow in Jackson by 17,000 cfs. Had the storm pattern been different or the flood forecasts not been exceptionally accurate, this would not have been possible. Secondly, the Federal flood control levees in Jackson were designed for a 100-year flood flow of 103,000 cfs (the peak flow in 1979 was 128,000 cfs). The Fairground levee on the west side of the river was flanked on the north end, thereby flooding the area behind the levee. However, the East Jackson levee held because of a monumental sandbagging effort when the floodwaters were lapping at the top of the levee. Had the East Jackson levee been overtopped, there would have been an additional 1,065 homes and 293 businesses flooded. Flood damages in that event would have been about $535 million in 1984 dollars, an increase of about $235 million.

EXISTING WATER PROJECTS

11. The Jackson (Fairgrounds) and East Jackson levees were completed in 1968 by the Corps. The locations of the levees are shown on Plate 1. These protective works consist of two earthen levees, four gated outlets, and two pumping stations. Some 5.34 miles of river channel work was involved in constructing the plan. The Fairgrounds levee protects 420 acres in the fairgrounds

area of Jackson on the west side of the river. The longer, East Jackson levee protects 5,870 acres, including the town of Pearl and portions of Flowood and Richland. This project was sponsored by the Rankin-Hinds Pearl River Flood and Drainage Control District, which presently operates and maintains the levees. Maintenance, in addition to maintaining the levee structures, involves periodic removal of vegetation along a 650-foot-wide cleared strip between the levees. In 1984, an extension on the north end of the Fairgrounds levee was constructed to eliminate flanking of the levee, such as occurred during the record flood of April 1979. This extension is approximately 0.2 mile long and protects an additional 380 acres.

12. The Fairgrounds levee top grade was set based on protecting against a 100-year-flood flow of 103,000 cfs with 3 feet of freeboard. Subsequent hydrology studies raised the computed 100-year peak floodflow at Jackson to 111,000 cfs. In view of the increase of the flow for the 100-year flood event, a study was made to determine the adequacy of the levee protection under present conditions. It was found that the new work accomplished in the floodway since 1968 has lowered the elevation of the 100-year flood stage. The levees now provide protection from the revised 100-year flood (111,000 cfs) with about 2.5 feet of freeboard.

13. The original pumping facilities included three 15-cfs pumps at the Fairgrounds levee and three 150-cfs pumps in the East Jackson levee. In 1993, the Rankin-Hinds Pearl River Flood and Drainage Control District added an additional 45 cfs at the Fairgrounds station and an additional 150 cfs at the East Jackson station.

FLOODWAY CLEARING

14. The clearing plan which was completed in 1984 extended from about 0.5 mile below the old Jackson sanitary landfill to Woodrow Wilson Bridge, a total of 3.3 river miles. The plan consisted of 237 acres of complete clearing, 20 acres of selective clearing, and 89 acres of partial clearing. Approximately 39,000 tons of riprap were required for protection around bridges. To offset unavoidable impacts to fish and wildlife associated with the clearing plan, approximately 320 acres of bottom-land hardwood were acquired as mitigation. The Pearl River Basin Development District (PRBDD) is the local sponsor for this project.

EXCAVATION AT HIGHWAY 25 BRIDGE

15. The modification at Highway 25 bridge consisted of removing material from the west bank of the Pearl River approximately 600 feet upstream and downstream of the bridge to increase the conveyance of the stream at that location. This work was completed by PRBDD in 1983.

ROSS BARNETT RESERVOIR

16. The Ross Barnett Reservoir was constructed by the Pearl River Valley Water Supply District, a state-chartered organization, between 1960 and 1962 for the purposes of water supply and recreation. The earthfill dam is 23,400 feet in length with a maximum height of 64 feet. Elevation at the top of the dam is 308 feet, National Geodetic Vertical Datum (NGVD). The principal spillway consists of ten 40- by 21-foot tainter gates with a discharge capacity of 180,000 cfs. The emergency spillway is a fuse plug type with a discharge capacity of 70,000 cfs.

BACKGROUND

17. A reconnaissance study was initiated in 1989 and a favorable report was completed in June 1990. The local sponsor, the PRBDD executed a Feasibility Cost-Sharing Agreement with the Corps in September 1991 to pursue alternative solutions. The resulting recommended plan documented in a January 1996 draft report was a comprehensive levee system to provide protection from the 1979 flood. The sponsor attempted on two occasions to obtain bonding authority from the state legislature. Both attempts were defeated largely in part to questions over the operation of the Ross Barnett Reservoir and downstream concerns over flooding and bank caving. Study actions were suspended in July 1998 because the sponsor was unable to secure a source of funds for their share. The final feasibility report was never completed.

18. In 1996, local interests proposed the LeFleur Lakes Flood Control Plan, consisting of upper and lower lakes along the Pearl River south of the Ross Barnett Reservoir, as an alternative to the comprehensive levee plan. The lakes would extend from the Ross Barnett Reservoir outlet downstream along the Pearl River to approximately 1 mile southwest of Interstate 20. In order to create the lakes and adjoining flood-free land for commercial development, the plan proposed performing cut and fill operations on the Pearl River. The combined lakes would cover approximately 4,800 acres (4,300 acres of the upper lake and 500 acres of the lower lake) at normal operating levels. Weirs at both the upper and lower lakes would regulate flow. The LeFleur Lakes Flood Control Plan has garnered some local support from community and business leaders due to its commercial development aspects and potential for cost recovery.

19. An Independent Evaluation of the LeFleur Lakes Flood Control Plan was conducted from June-December 2000 by the Architect-Engineer firm, URS. This endeavor was cost shared equally by the Vicksburg District and the PRBDD. The evaluation indicated that the Lakes Plan could reduce Pearl River flooding in the Jackson area as would the levee plan.

20. Meetings were held with the PRBDD and Rankin-Hinds Pearl River Flood and Drainage Control District on 5 September 2001 to discuss resumption of flood control studies in Jackson, Mississippi, directed toward developing a compromise plan incorporating aspects of both the levee and lakes plans. Such a plan could potentially provide a high degree of flood protection, be economically feasible and environmentally sustainable, and be supported locally. Based on meeting results, the Vicksburg District requested and received funds to prepare the PMP and Feasibility Cost-Sharing Agreement for negotiation. The draft PMP prepared for developing a compromise plan was presented to the potential sponsor in May 2002.

21. Subsequent to preparing the draft PMP, guidance was received from HQUSACE directing the Vicksburg District to revise the draft PMP to limit feasibility studies to include updating of the previously proposed levee plans presented in the aforementioned January 1996 draft report and an analysis of the LeFleur Lakes flood control plan. The LeFleur Lakes plan could be designated the locally preferred plan with non-Federal interests paying additional project costs above the non-Federal share as determined by the National Economic Development (NED) plan. The PMP was revised to reflect HQUSACE guidance. During subsequent coordination activities with the non-Federal sponsor, it was determined that levees downstream of the proposed LeFleur Lakes lower weir would be needed in conjunction with the LeFleur Lakes to provide flood control to downstream areas. These areas included south Jackson, Richland, and Byram. Previous flood control studies for Jackson indicated that levees for south Jackson and Richland were economically feasible. The Byram levee alternative was not economically feasible. Studies will include investigation of levees for south Jackson and Richland as a component of the LeFleur Lakes plan. Information presented in the PMP is based on the south Jackson and Richland levees, as currently formulated being compatible with the LeFleur Lakes. Revisions to this PMP and study costs could become necessary, if during the conduct of the investigation that reformulation of these levee segments become necessary.

STUDY PURPOSE

22. The purpose of the feasibility study is to investigate measures to alleviate flooding in the study area and determine the feasibility of continued Federal involvement in developing and implementing a solution. Alternative solutions will be evaluated to address the study area's flood problems. The feasibility and performance of the proposed solution, along with the social, cultural, economic, and environmental impacts, will be evaluated during the feasibility study. Regional economic development benefits will be developed and included in the feasibility report for local decisionmaking purposes.

PROPOSED ACTIONS

23. The feasibility study for Pearl River Watershed, Mississippi, will be conducted to fully evaluate a range of alternatives to provide a comprehensive plan for flood control. Alternative development and analysis will be limited to updating of previously proposed levee plans and an evaluation of the LeFleur Lakes plan. Alternatives will be analyzed to the extent required for identifying the plan which best meets the needs based on the planning criteria. The LeFleur Lakes plan will be evaluated to the same detail as the previously proposed levee plans and will

be included as an additional alternative in the completed feasibility report. Existing and future hydrologic conditions will be considered, and the level of protection for the study area will be optimized according to an economic analysis of benefits and costs. Project features will be evaluated to ensure that the latest economic and environmental regulations for acceptability under Federal laws and regulations are met.

ALTERNATIVE PLANS

24. Feasibility studies for the Pearl River Watershed study area will be conducted to fully update the analysis of previously proposed levee plans and analyze the LeFleur Lakes plan to provide a comprehensive plan for flood control. The NED Plan will be identified during the investigations. Alternative plan features will be refined to the extent practical, to minimize costs and maximize benefits, and these features will be incrementally analyzed. Input from all Vicksburg District elements and the non-Federal sponsor will be analyzed to ensure that all plan features are developed to the appropriate scope; all plan features are consistent; all adverse effects of the alternative plans that may require modification to the project are identified; and appropriate modifications are included in the plan. Assuming a feasible plan is identified, design studies will be completed to develop a baseline cost estimate and schedule for implementation. Studies will specifically be limited to updating of the levee plans previously proposed by the Vicksburg District and an analysis of the LeFleur Lakes flood control project. The LeFleur Lakes alternative will include investigations of levees in south Jackson and Richland to provide a comprehensive flood control plan.

SCOPE OF WORK

25. Data will be gathered during the study to complete all required economic, environmental, and engineering analyses for the LeFleur Lakes plan. Data will be collected to quantify the flood control and any associated benefits associated with the plan. In addition, sufficient data will be collected to determine the costs of land, structures, channelization, and roads/bridges and utility relocations. Existing survey and boring data will be utilized during the feasibility phase to the fullest extent possible. The collection of new survey and boring data will be limited to that necessary to evaluate the LeFleur Lakes plan. Investigations for the previously proposed levee alternatives documented in the January 1996 report will be updated to current conditions. The LeFleur Lakes plan will be included as an alternative with the updated levee plans in the feasibility study. The NED Plan will be identified during the investigations. Additional survey and boring data will have to be collected during Preconstruction Engineering and Design prior to project construction.

26. Evaluations necessary for a complete and thorough environmental assessment of the alternatives will be conducted. The environmental analysis of the levee alternatives will be updated as appropriate and a comparable assessment of the LeFleur Lakes plan conducted. An Environmental Impact Statement (EIS) will be required assuming a feasible, implementable plan is identified. Environmental and recreational features will be included in the selected plan to the extent feasible and practicable. Mitigation measures will also be a part of that plan. Cultural resources will be addressed through literature and ground surveys of the proposed project area.

27. Assuming a feasible, implementable plan is identified, design studies will be conducted to the extent necessary to establish a baseline cost estimate and construction schedule. An engineering appendix will be prepared presenting design documentation for the selected plan to such detail that a General Design Memorandum will not be required. Detail Design Memorandum and, possibly, model studies will be required for each major feature of the recommended plan prior to construction. Major features include weirs and water control structures, levees, and lake excavation and associated fill activities.

28. The overall study management will be the responsibility of the U.S. Army Corps of Engineers, Vicksburg District. The study will be managed by a senior project manager in Planning, Programs, and Project Management Division who will also be responsible for leading the Project Delivery Team (PDT) during the feasibility phase. The Rankin-Hinds Pearl River Flood and Drainage Control District will be actively involved in the management of the study. Other members of the PDT will include an economist, environmentalist, hydraulic engineer, environmental engineer, structural engineer, mechanical engineer, electrical engineer, surveyors, draftsmen, soils engineer, cost engineer, real estate appraiser, programmer, etc. The study will also involve close coordination with the U.S. Fish and Wildlife Service (FWS), U.S. Geological Survey, and Pearl River Valley Water Supply District.

29. Specific scopes of work for the activities required to accomplish the feasibility study are presented in Appendix A. Activities are grouped according to the organization responsible for performing the task. A discussion of what, why, who, when, how, manpower/cost, and duration is presented for each activity.

STUDY PARTICIPANTS AND COORDINATION

30. The approved PMP will be distributed to designated Federal, state and local agencies. Comments and/or questions concerning the study will be solicited in the letter of transmittal for each PMP distributed. An executive committee and study management team with Corps and local sponsor representatives will be made a part of the PDT to review and verify the problems and needs and provide input in plan formulation as to potential solutions.

31. The interdisciplinary PDT approach will be used throughout the study with each participant involved when his/her skill or knowledge could have a material effect on progress and output. The names and disciplines of the team members are presented in Section 49.

32. Coordination meetings will be held throughout the study period to solicit input in decision making. Coordination with the U.S. Fish and Wildlife Service will be effected throughout the study process for inclusion of their desires and concerns regarding project features.

33. The Vicksburg District has responsibility for conducting and coordinating the study. This responsibility includes the conduct of detailed economic, environmental, and engineering studies, consolidation of information from other agencies and preparation of the report. The following agencies and organizations are among those who have contributed or are expected to contribute to the studies:

U.S. Fish and Wildlife Service
U.S. Department of Agriculture, NRCS
U.S. Environmental Protection Agency
U.S. Geological Survey
Mississippi Department of Transportation
Mississippi Department of Wildlife, Fisheries and Parks
Mississippi Department of Environmental Quality
Mississippi Department of Archives and History
National Wildlife Federation
Wildlife Management Institute
Ducks Unlimited
City of Jackson, Mississippi
City of Pearl, Mississippi
City of Flowood, Mississippi
City of Richland, Mississippi
Hinds County, Mississippi
Madison County, Mississippi
Rankin County, Mississippi
Pearl River Basin Development District

BUDGET AND COST ESTIMATES

34. Study cost estimates are shown in Appendix B for each fiscal year of the study. The total estimated study cost based on current costs is $2.8 million. Contingency funds will not be included in the expenditures programmed each fiscal year. Expenditure of contingency funds will be in accordance with the provisions of the Feasibility Cost-Sharing Agreement. Unexpended contingency funds will be used to reduce out-year funding requirements. Due to the relatively short study period of 2.5 years and anticipated low inflation rates through the study period, fully funding the cost estimate for anticipated inflation was deemed to be unnecessary.

SCHEDULE

35. A network schedule showing the logical progression of all the study activities is presented in Appendix C. This schedule is based on the assumptions presented in the scopes of work in Appendix A. Major activities and corresponding milestones are listed below:

Milestone	Activity
Oct 03	Initiate feasibility study
Feb 05	Alternative formulation briefing
Nov 05	Submit draft report and EIS
Nov 05	Feasibility Review Conference, if required
Jan 06	Public meeting
Apr 06	Submit final report and EIS
May 06	Division Engineer's Notice of Report

COMMUNICATIONS PLAN

36. Project Delivery Team members and reviewers are responsible for reading all written documents related to the project. Regularly scheduled meetings shall be held throughout the study, to be used as a forum for discussing issues related to product quality. Team members, managers, and reviewers are responsible for communicating issues, concerns, and problems as soon as they are recognized, so that appropriate solutions can be developed in a timely manner. Documentation of formal and informal meetings, CC: Mail, E-Mail, and in-progress technical and/or policy reviews shall be maintained and be available for reference.

37. Regular meetings will be held with the non-Federal sponsors to discuss and disseminate information. The non-Federal sponsors will be invited to attend regularly scheduled team meetings. Team meetings will also be held at locations selected by the non-Federal sponsor to facilitate non-Federal participation.

38. A mailing list of interested individuals, organizations, agencies, businesses, etc., will be developed. The list will be updated throughout the study as additional interested parties are identified through personal contact, meeting attendance, and other expressions of interest. The mailing list will be computerized in that information can be extracted as needed. Interested public and the ways they should be addressed, topics, themes, elements, approaches, and potential distribution channels such as newspapers, news magazines, radio, and television will be identified.

39. A program will be developed for environmental organizations and agencies with the purpose of ascertaining their concerns and desires for environmental features. News releases will be developed by the Vicksburg District Public Affairs Office with input and in concert with the non-Federal sponsors. Workshops and small group meetings will be scheduled during the study process to provide information to local interests to gather input. A basic project website will be developed on the District Projects page. Public meetings will be scheduled to provide information on study findings and gather public input. The Project Manager Communications Checklist (Appendix D) will be followed in implementing the Communications Plan.

CUSTOMER REQUIREMENTS PLAN

40. The Customer Requirements Plan is presented in Appendix E. The plan includes the contact person(s) for the study, description of the product being provided, and key focus areas. The plan will be updated throughout the study as necessary.

CURRENT BENEFITS PLAN

41. Project benefits for the alternative plans will be developed during the study and will reflect an effective date corresponding to submission of the draft feasibility report. The PMP will present a plan for updating project benefits for the recommended plan each year.

LOCAL COOPERATION PLAN

42. The cash requirements of the local sponsor are presented in Appendix B. The cash payments will be made as follows:

a. For each fiscal year of the study, the Government shall, no later than 60 days prior to the beginning of the fiscal year, notify the local sponsor of the sponsor's cash requirements for the upcoming fiscal year.

b. No later than 30 calendar days prior to the beginning of the fiscal year, the local sponsor shall verify to the satisfaction of the Government that it has deposited the requisite amount in an escrow account acceptable to the Government with interest accruing to the local sponsor.

c. As the study progresses, the Government will adjust the cash amounts required to be provided by the local sponsor such sums as the government deems necessary to cover contractual and in-house fiscal obligations attributable to the study as they are incurred.

d. As currently planned with the exceptions noted below, the non-Federal sponsor intends to fulfill their cost-sharing requirements by performing in-kind work. The non-Federal sponsor will share equally in the costs of the Fish and Wildlife Coordination Act Report prepared by the U.S. Fish and Wildlife Service and in the costs for Independent Technical Review which will be performed by another Corps District office within the Mississippi Valley Division. Total costs for these activities are currently estimated at $120,000 and $50,000, respectively.

A copy of the escrow agreement to be executed between the Government, the local sponsor, and the financial institution is provided as Appendix F

IN-KIND WORK

43. In-kind work will include activities conducted by the sponsors as shown in Appendix B.

ACQUISITION PLAN

44. The acquisition plan will be developed during the preconstruction, engineering, and design phase of project development. The Federal Acquisition Regulations and the Engineer Federal Acquisition Regulations require the preparation of an acquisition plan. The plan will provide a comprehensive and concise picture of what is being procured, why the type or manner of

procurement was most appropriate for the planned acquisition. The acquisition plan will be a coordinated product of the appropriate functional elements, contracting, and the Small and Disadvantaged Business Utilization Office.

REAL ESTATE PLAN

45. Real Estate Division, Vicksburg District, will prepare a Real Estate Plan, which will include a Baseline Cost Estimate (Chart of Accounts) for the recommended plan, as well as milestones and other pertinent real estate information. Cost estimates for lands and damages associated with the alternative plans will be prepared and included in the cost estimates used to determine economic feasibility of each alternative plan. The baseline cost estimate for real estate required for the recommended plan will include a gross appraisal which will be reviewed and approved according to current delegated authority.

QUALITY CONTROL PLAN

46. Under current Corps procedures, technical review is a District level function, quality assurance is a Division function, and policy compliance review is a HQUSACE function. Quality assurance is the process that provides oversight to quality control and involves an audit of the quality control process. Quality control is the process for evaluating the technical products and processes of the feasibility study to ensure they comply with laws, regulations, guidance, procedures, policy and sound technical practices of the disciplines involved. A Quality Control Plan (QCP) is prepared by the District to describe the procedures that will be employed to ensure compliance with all technical and policy requirements and establish the organization responsibilities for providing quality control of all study activities. The QCP ensures that all study activities are conducted consistent with Corps guidance and regulations and that the final output is a high quality product. In addition to being a part of the study PMP, the QCP will also be a part of the project PMP.

TECHNICAL REVIEW

47. The cornerstone of quality control and project development is an independent technical review to assure conformance with Corps technical requirements and that the project is safe, functional and cost effective. The technical review will focus on compliance with clearly established policy principles and procedures using clearly justified and valid assumptions. The review will be ongoing throughout product development, using a team concept, not a cumulative review process performed at the end. Coordination and calculation checks will be performed by the product development team, not by the review team, prior to forwarding the product for use in other study activities.

48. Technical review of the various study elements will be conducted in accordance with EC 1165-2-203, 15 October 1996. Technical review will be conducted by another Corps District office within the Mississippi Valley Division possessing the technical expertise to address the alternative under investigation. To ensure a quality product, the Vicksburg District will also perform District office review concurrent with the technical review being performed by another Corps District.

INTERDISCIPLINARY PROJECT DELIVERY TEAM

49. The Interdisciplinary PDT members are presented below.

Name	Function	Office	Telephone
Gary Walker	Senior Project Manager	CEMVK-PP-D	631-5469
Karen Dove-Jackson	Biologist	CEMVK-PP-PQ	631-7136
Jim Wojtala	Archeologist	CEMVK-PP-PQ	631-5428
Lee Robinson	Economist	CEMVK-PP-PE	631-5435
Allen Perry	Structure Design	CEMVK-ED-D	631-5057
Ben Caldwell	Channel Design	CEMVK-ED-DL	631-5593
Fred Lee	Mechanical	CEMVK-ED-DC	631-5742
Ray Tisdale	General Engineering	CEMVK-ED-CE	631-5617
Ken White	Real Estate Appraisal	CEMVK-RE-EP	631-5242
	Real Estate Acquisition	CEMVK-RE-S	631-5266
Richard Miller	Real Estate Planning	CEMVK-RE-P	631-5224
Phil Hegwood	Cost Engineering	CEMVK-ED-CC	631-7513
Charles McKinnie	Hydraulics	CEMVK-ED-HD	631-7108
Robert Hite	Design	CEMVK-ED-D	631-7223
Nancy Purvis	Geotechnical	CEMVK-ED-GA	631-7212
Dave Johnson	Water Quality	CEMVK-ED-HW	631-7221
Jim Spencer	Operations	CEMVK-OD-M	631-7690
Harold Lee	Regulatory	CEMVK-OD-FE	631-7104

MAINTENANCE OF RECORDS

50. "Completion of independent technical review" and "certification of independent technical review" documentation will accompany the feasibility report. The documentation will certify that the technical (including legal) reviews have been accomplished, cite the major issues that were raised and resolved, and identify the technical review team leader and members. The certification will be signed by the review team leader, team members, functional division chiefs, and District Counsel of the Corps District performing the Independent Technical Review.

Technical review files will be maintained in the Vicksburg District. The files will include coordination between subject matter expert and review team member, comments of review team members, responses to review team comments, and other information used to document the review activities.

VALUE-ENGINEERING PLAN

51. The Value Engineer will review the project, and appropriate action, if any, will be taken during the feasibility study. A Value-Engineering Plan will be developed for the plan and detailed in the PMP. This plan will discuss the need for a cost effectiveness review.

SAFETY PLAN

52. This element has been evaluated and is not applicable to the study.

SECURITY PLAN

53. This element has been evaluated and is not applicable to the study.

CULTURAL RESOURCE PLAN

54. Efforts will focus on designing and implementing cultural resources investigations, monitoring project development, and coordinating efforts with the State Historic Preservation Officer and the Advisory Council on Historic Preservation. Cultural resource surveys will be conducted by contract. The survey will be conducted using appropriate professional methods and techniques to identify cultural resources within the project area, and assessing them for National Register of Historic Places eligibility according to established criteria. The contractor will complete any National Register forms, if appropriate, and prepare a written report of the findings. The report will provide recommendations for the protection and preservation of significant cultural resources and include a discussion on the potential for sites in the unsurveyed portion of the project area.

ENVIRONMENTAL PLAN

55. The mitigation process used in Corps water resource development studies requires that adverse project-induced environmental impacts first be avoided, then minimized, and any remaining unavoidable impacts be compensated. Therefore, no unmitigated adverse impacts to significant resources will be caused by implementation of the project. Project features will be designed to avoid or minimize environmental impacts, and features will be included in the project to compensate for unavoidable impacts. The U.S. Fish and Wildlife Service and various

other Federal, state and local agencies will participate in the design and selection of environmental designs and features. Cultural resources will be assessed and impacts considered in plan formulation, design, and mitigation planning.

56. Through the scoping process, Federal participating agencies will be identified and scoping meetings, open to the public, will be held early in the study to identify significant environmental resources in the project area. An EIS will be prepared and coordinated with appropriate Federal, state, and local agencies and the public as required for NEPA compliance. Compliance documents for Section 404(b)(1) guidelines and Water Quality Certification will be prepared as required.

57. A mitigation plan will be prepared detailing the proposed measures to compensate for any unavoidable environmental or cultural resources impacts caused by construction, operation, and maintenance activities.

OPERATION AND MAINTENANCE

58. Operations and Engineering Division, Vicksburg District, will review the design features, determine the operation and maintenance requirements, recommend typical standard operating procedures, and estimate the operation, maintenance, replacement, and rehabilitation costs for the alternative plans.

MANAGEMENT CONTROL PLAN

59. Management of this study will be in accordance with ER 5-1-11 and ER 1105-2-100. Cost, schedule, and technical performance will be monitored by the project manager using standard procedures outlined in the regulations referenced above.

60. The Feasibility Cost-Sharing Agreement formalizes an Executive Committee and its responsibilities. The committee will be comprised of the District Engineer, the Deputy District Engineer for Project Management, the Chief, Planning and Project Management Branch, and a person of commensurate decision-making authority for the non-Federal sponsors. The District Engineer and his local sponsor counterpart will cochair the committee. During the feasibility phase, the Committee will participate in any Issue Resolution Conferences and participate in decisions and recommendations made by the Management Team. The Executive Committee will also be responsible for resolving any disputes that may arise during the study and determining appropriate solutions and study direction, including termination or suspension.

61. In accordance with EC 1105-2-208, the Vicksburg District will notify HQUSACE of changes that significantly alter the scale and scope of the study so that all parties can reach a new agreement on the conduct of the study.

REPORTING REQUIREMENTS

62. Reporting of study progress and expenditures will be made using the guidelines given in ER 5-1-11 and ER 1105-2-100.

CHANGE CONTROL PLAN

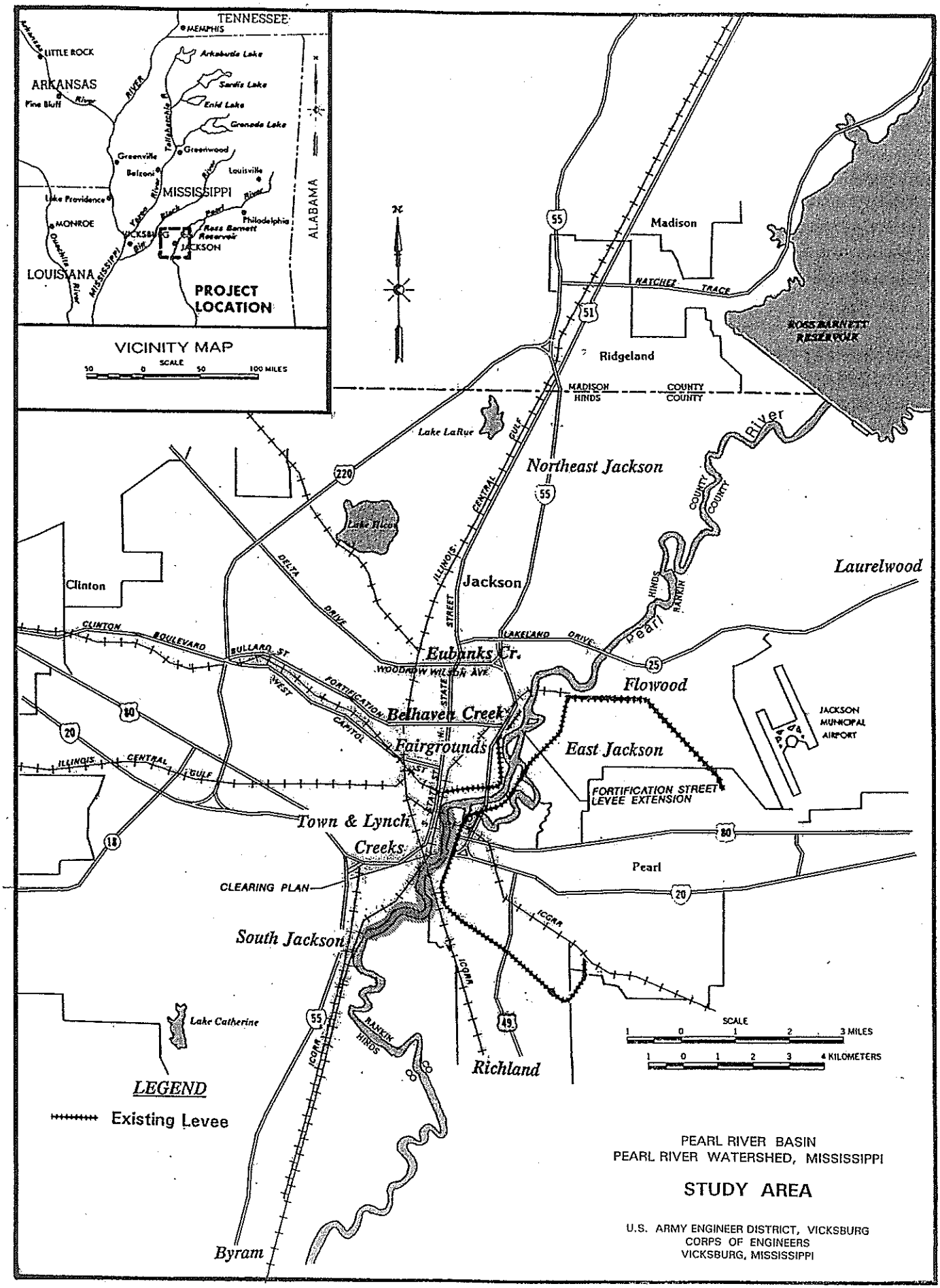
63. If a significant change in activity cost or schedule is identified during the study, the identifying team member will submit a Schedule and Cost Change Report (SACCR). Redetermination of the study scope will be made in consultation with the local sponsor. Submission and approval of SACCR's are not a correction for poor planning, poor execution, or efforts/expenditures outside the scope of the PMP. Necessary efforts/expenditures outside the scope of the PMP will be reviewed and approved by the project manager and sponsor prior to being undertaken.

SENSITIVITY AND RISK ANALYSES

64. Risk and uncertainty and certain sensitivity analyses are required under Corps guidelines for evaluation of all water resource problems and projects. The general requirement is to identify all assumptions, predicted variables, estimated values, and parameter values which are critical to the report recommendation, and the value of each critical factor where the recommendation would change or feasibility would be questioned. For flood control projects, the analyses may address assumptions regarding economic, hydraulic, and environmental factors and data. Analyses will only be conducted to the necessary detail required for validation of project feasibility.

UNCERTAINTIES IN SCOPE OF WORK

65. The PMP defines the tasks required to complete the Pearl River Watershed, Mississippi, feasibility study as currently scoped. These tasks and related costs are subject to change during the course of the study if plan modifications, additional plans, or other study modifications are warranted. If changes in the scope of work are required, the total cost of the study will be adjusted to reflect such changes.



PEARL RIVER BASIN
PEARL RIVER WATERSHED, MISSISSIPPI

STUDY AREA

U.S. ARMY ENGINEER DISTRICT, VICKSBURG
CORPS OF ENGINEERS
VICKSBURG, MISSISSIPPI

PEARL RIVER WATERSHED, MISSISSIPPI
PROJECT MANAGEMENT PLAN

APPENDIX A
WORK SCOPE

APPENDIX A
SCOPE OF WORK
PEARL RIVER WATERSHED

PLANNING, PROGRAMS, AND PROJECT MANAGEMENT DIVISION (PPPMD)

Planning and Project Management Branch

Public Involvement

What: Develop, implement, and administer a public involvement plan. Appropriate mailing lists will be developed and maintained.

Why: To ensure the public is kept informed of study progress and findings and that public input is incorporated into the plan formulation process.

Who: The non-Federal sponsor will have primary responsibility for the public involvement program. One GS-13 Senior Project Manager (SPM) and one GS-10 Civil Engineering Technician will assist in the development/coordination of the public involvement program.

When: Throughout feasibility study as required.

How: By coordination with non-Federal sponsor, preparing news releases, information factsheets, conducting shop meetings, etc. A public involvement plan will be developed by the non-Federal sponsor with assistance from the District and implemented through a notice of study initiation, public meetings, and other public involvement coordination activities. The non-Federal sponsors will be actively involved in the public involvement program and will have primary responsibility for arranging and coordinating meetings with local interests and other groups interested in the study. A notice of study initiation will be prepared and distributed according to an updated mailing list developed during the feasibility study suspended in July 1998. News releases will be prepared in coordination with the Public Affairs office and distributed to the appropriate media. Responses to the notice of study initiation and media releases will be reviewed to identify study issues, and concerns and responses will be prepared. Issues and concerns will be presented to the Project Delivery Team for consideration. Shop meetings will be held with groups of landowners. Public meetings (shown separately) will be conducted as required to provide and receive information to and from the public, formulate a consensus, and develop a method for future interaction. Additional public coordination will include preparing correspondence to address individual issues and concerns, preparing and making presentations to business and civic groups interested in the study, and conducting meetings with local interests to determine their views and gather input to the study.

Manpower/Cost:

Vicksburg District		
GS-13 1 man-day/month @ $807/man-day X 21 months	=	$16,947
Travel	=	$ 2,000
Vehicles	=	$ 430
Graphics Support	=	$ 2,000
Total	=	$21,377
	Use	$21,400
Non-Federal Sponsor		
5 man-days/month @ $800/man-day X 30 months	=	$120,000
Total	-	$141,400

Duration: Continuous throughout feasibility study.

Plan Formulation

What: Plan formulation will be limited to updating of previously proposed levee plans documented in a January 1996 draft report and plan formulation activities relating to the LeFleur Lakes plan. Review of existing and without-project hydrologic, economic, and environmental data necessary to update previously proposed alternatives and analyze the LeFleur Lakes alternatives and a review of previous studies will be accomplished. All data necessary for plan development and evaluation will be collected. Beneficial and adverse impacts will be evaluated and the alternatives refined or reformulated as necessary to maximize beneficial impacts and minimize adverse impacts. Tradeoff analyses will be conducted. After assessment and evaluation of detailed plans in the final array, the plan which best meets the needs of the project area and is acceptable locally, makes optimum use of available water resources, and is engineeringly, economically, and environmentally sound will be identified for more detailed engineering.

Why: To assure that the National Economic Development (NED) plan and the locally preferred plan are identified and that the best plan from an overall standpoint is recommended.

Who: One GS-13 SPM, one GS-10 Civil Engineering Technician, and non-Federal sponsor.

When: Beginning with initiation of study and continuing up to preparation of draft report.

How: Coordinate closely with the non-Federal sponsor, Rankin-Hinds Pearl River Flood and Drainage Control District, and other associated stakeholds. Utilize Corps planning regulations and guide study team as required.

Manpower/Cost:

Vicksburg District		
GS-13 8 man-days @ $807/man-day	=	$6,456
GS-10 4 man-days @ $507/man-day	=	$2,028
Graphics Support	=	$ 700
Total	=	$9,184
	Use	$9,200
Non-Federal Sponsor		
10.5 man-days @ $800/man-day	=	$8,400
	Use	$8,500
Total	=	$17,700

Duration: As needed.

Project Management

What: Conduct study in accordance with Project Management Plan (PMP). Lead and direct PDT. Project management and coordination during the feasibility phase. Since the SPM is responsible for all coordination throughout the course of the study, this activity includes all coordination with the non-Federal sponsor's Project Manager (PM) and non-Federal sponsor and involvement with the PDT and other stakeholders during the execution of the study. In addition, this activity includes active involvement in the development of a public involvement program, preparation of the necessary documents to brief the Project Review Board (PRB), and review of the budget documents. The non-Federal sponsor's PM will have primary responsibility for ensuring tasks included in the PMP as work-in-kind are being accomplished in accordance with the PMP and study schedule.

Why: To implement study in accordance with PMP and assure effective communication among all study participants and stakeholders. Also, to provide the sponsor and sponsor's PM with one point of contact within the Corps who will service this need through project construction.

Who: One GS-13 SPM, one GS-12 Civil Engineer, and one GS-10 Civil Engineering Technician, and the non-Federal sponsor's PM.

When: Throughout feasibility study as required.

How: Conduct the study in accordance with the PMP to optimize the design features of the study alternatives through the management of the PDT. Coordinate and synthesize the efforts of the PDT members, District technical specialists, support personnel, consultants, contractors, and

state, Federal, and local agencies participating in the study. Determine the work to be accomplished, work assignments, schedules, and guidance; and assist in resolving unusual or controversial problems. Monitor the progress of the study and report to higher echelons. Meet and deal with representatives of various governmental agencies and private organizations to discuss study-related matters and problems. Negotiate differences on criteria and procedures for the processing of data and findings to be utilized to meet the established mutual goals and objectives of the study. Review the completed study material to assure that conclusions and decisions reached are consistent with sound engineering and planning practices and conform to Corps and other governmental policies and requirements. Research, review, and analyze available engineering material to assist in the development of information pertaining to the study area, which may be required by PDT members or higher echelon. Direct team members in the preparation of required report input. The local sponsor will appoint a PM who will coordinate sponsor activities with the Corps. The sponsor PM will coordinate efforts to meet the obligations and schedules described herein when the sponsor has a lead role in an activity. When the role of the sponsor is to support an activity, the Corps manager will coordinate efforts to accomplish the assigned tasks in a timely manner.

Manpower/Cost:

Vicksburg District		
GS-13 1 man-day/month @ $807/man-days @ 30 months	=	$24,210
GS-12 1 man-day/month @ $660 man-days @ 30 months	=	$19,800
Travel	=	$ 1,000
Vehicles	=	$ 315
Graphics Support	=	$ 2,000
Total	=	$47,325
	Use	$47,300
Non-Federal Sponsor		
2.0 man-days/month @ $800/man-day X 30 months	=	$48,000
Total	=	$95,300

Duration: Continuous through feasibility study.

Budget Preparation

What: Develop information to prepare yearly study budgets. Update PMP's as needed. Coordinate with Programs Management Branch to ensure adequate Federal funds are available. Coordinate with sponsor to ensure adequate non-Federal funds are available. Provide input for follow-up questions by CEMVD, HQUSACE, and congressional interests.

Why: To assure adequate funds are available to accomplish feasibility study.

Who: One GS-13 SPM and one GS-7 Program Analyst.

When: Through feasibility study.

How: Routinely monitor study requirements and funds availability.

Manpower/Cost:

Vicksburg District			
GS-13	4 man-days/year @ $807/man-day X 2.5 years	=	$8,070
GS-7	7 man-days/year @ $400/man-day X 2.5 years	=	$7,000
Total		=	$15,070
		Use	$15,100

Duration: Continuous as needed throughout the feasibility study.

Program Execution

What: Monitor all study expenditures. Measure study expenditures against study schedule and funds availability. Report monthly expenditure gains and slippage to PRB for monthly reporting including rationale for gains and slippage.

Why: To assure all study funds are properly expended.

Who: One GS-13 SPM and one GS-07 Program Analyst.

When: Throughout feasibility study. Estimate 0.5 man-day per month.

How: Monitor weekly expenditures using PROMIS and CEFMS reports to determine funds are properly expended.

Manpower/Cost:

Vicksburg District			
GS-13	0.25 man-day/month @ $807/man-day X 30 months	=	$ 6,052
GS-07	1.0 man-day/month @ $400/man-day X 30 months	=	$12,000
Total		=	$18,052
		Use	$18,100

Duration: Continuous.

NEPA Scoping Meetings

What: Prepare meeting notices, presentations, visual aids, informational handouts, and displays. Arrange facilities and transportation. Attend meetings and deliver presentations. The non-Federal sponsor will actively participate.

Why: To allow public input into plan formulation and the NEPA process.

Who: The non-Federal sponsor or their designee with support from one GS-13 SPM and one GS-10 Civil Engineering Technician.

When: Following initiation of study and prior to feasibility scoping meeting.

How: In-house and sponsor labor using personal computers with word processing and graphic arts software.

Manpower/Cost:

Vicksburg District		
GS-13 2 man-days @ $807/man-day	=	$1,614
GS-10 5 man-days @ $507/man-day	=	$2,535
Total	=	$4,149
	Use	$4,100
Non-Federal Sponsor		
10 man-days @ $800/man-day	=	$8,000
Total	=	$12,100

Duration: 40 days

Feasibility Scoping Meeting

What: Prepare preconference information for HQUSACE. Arrange transportation. Attend meeting. Prepare postconference information.

Why: To ensure that feasibility study is focused and tailored to meet specific objectives.

Who: One GS-13 SPM and one GS-10 Civil Engineering Technician.

When: Following NEPA scoping meetings.

How: By in-house labor coordinating with CEMVD and CECW-P staff.

Manpower/Cost:

GS-13	4 man-days @ $807/man-day	=	$3,228
GS-10	2 man-days @ $507/man-day	=	$1,014
Total		=	$4,242
		Use	$4,200

Duration: 28 days

Alternative Formulation Briefing

What: Prepare preconference information for HQUSACE. Arrange transportation. Attend meeting. Prepare postconference information.

Why: To facilitate resolution of issues regarding plan selection prior to completing preliminary draft report.

Who: One GS-13 SPM, one GS-12 Civil Engineer, and one GS-10 Civil Engineering Technician.

When: Following development of benefit-cost ratios and prior to preparation of main report.

How: By in-house labor coordinating with CEMVD and CECW-P staff.

Manpower/Cost:

GS-13	4 man-days @ $807/man-day	=	$3,228
GS-12	2 man-days @ $660/man-day	=	$1,320
GS-10	2 man-days @ $507/man-day	=	$1,014
Total		=	$5,562
		Use	$5,600

Duration: 48 days

Prepare Main Report

What: Prepare preliminary draft of main report including text and plates.

Why: To provide a summary of documentation of feasibility study.

Who: One GS-13 SPM, one GS-12 Civil Engineer, and one GS-10 Civil Engineering Technician.

When: Prior to printing of preliminary draft report.

How: By researching historical data and documenting appropriate study results using in-house labor and personal computers with appropriate word processing and graphic software.

Manpower/Cost:

GS-13	8 man-days @ $807/man-day	=	$ 6,456
GS-12	3 man-days @ $660/man-day	=	$ 1,980
GS-10	10 man-days @ $507/man-day	=	$ 5,070
Total		=	$13,506
		Use	$13,500

Duration: 22 days

Preliminary Report Preparation

What: Assemble main report, EIS, and appendixes for printing. Preparing pagination sheets for printer. Coordination with printer prior to and during printing. Print 100 copies of report.

Why: To ensure preliminary draft report is printed on schedule for District and Division review.

Who: One GS-13 SPM and one GS-10 Civil Engineering Technician.

When: Beginning with preparation of main report and prior to District office review.

How: Using in-house labor and coordinating with printing contractor.

Manpower/Cost:

GS-13	5 man-days @ $807/man-day	=	$4,035
GS-10	7 man-days @ $507/man-day	=	$3,549
Total		=	$7,584
		Use	$7,600

Duration: 15 days

Feasibility Review Conference

What: Prepare preconference information for HQUSACE. Arrange transportation. Conduct site visit. Attend meeting. Prepare responses to issues identified in Project Guidance Memorandum. The non-Federal sponsor will participate in the conference.

Why: To facilitate resolution of technical and policy issues with HQUSACE prior to completion of feasibility study. The non-Federal sponsor will participate to ensure their interests are considered in project development.

Who: One GS-13 SPM, one GS-10 Civil Engineering Technician, and the non-Federal sponsor.

When: Following submission of preliminary draft to HQUSACE and prior to public review of draft report.

How: By in-house labor coordinating with CEMVD and CECW-P staff.

Manpower/Cost:

Vicksburg District		
GS-13 4 man-days @ $807/man-day	=	$3,228
GS-10 3 man-days @ $507/man-day	=	$1,421
Total	=	$4,649
	Use	$4,600
Non-Federal Sponsor		
5 man-days @ $760/man-day	=	$3,800
Total	=	$8,400

Duration: 30 days

Draft Report Preparation

What: Incorporation of revisions to report following District and Division review. Updating report text and plates. Preparing pagination sheets for printer. Coordinating with printer prior to and during printing. Print 400 copies of report.

Why: To ensure draft document is prepared and printed on schedule.

Who: One GS-13 SPM, one GS-12 Civil Engineer, and one GS-10 Civil Engineering Technician.

When: Following review of preliminary draft report and prior to public review.

How: Using in-house labor and coordinating with printing contractor.

Manpower/Cost:

Vicksburg District		
GS-13 4 man-days @ $807/man-day	=	$ 3,228
GS-12 4 man-days @ $660/man-day	=	$ 2,640
GS-10 10 man-days @ $507/man-day	=	$ 5,070
Total	=	$10,938
Use	=	$10,900
Non-Federal Sponsor		
8 man-days @ $625/man-day	=	$ 5,000
Total	=	$15,900

Duration: 35 days

Report Review

What: Lead the District office in a thorough review of all aspects of the report. The non-Federal sponsor will coordinate the review of the draft report with the non-Federal sponsor.

Why: To ensure a quality report is prepared and to ensure sponsor's interests are adequately considered in the report.

Who: One GS-13 SPM, the non-Federal sponsor PM, and the non-Federal sponsor.

When: After completion of the draft report by the Vicksburg District.

How: Accomplish by the SPM within CEMVK conducting team meetings using oral, written and electronic communications and by the non-Federal sponsor PM using similar communications media. The non-Federal sponsor PM will provide sponsor comments to the Corps SPM.

Manpower/Cost:

Vicksburg District		
GS-13 7 man-days @ $807/man-day	=	$5,649
Total	Use	$5,600
Non-Federal Sponsor		
20 man-days @ $800/man-day	=	$16,000
Total	=	$21,600

Duration: Continuous throughout the feasibility study.

Independent Technical Review

What: Conduct technical review of main report and other appropriate appendixes. Prepare documentation for technical review package.

Why: To ensure a quality report is prepared.

Who: Another District office within the Mississippi Valley Division (CEMVD) or other Corps District office with the necessary expertise.

When: When draft report has been prepared and prior to submittal of draft report to CEMVD. The technical review package will accompany the draft report to CEMVD.

How: Accomplish by another District within CEMVD or other District office with the necessary expertise. The District performing the technical review will assemble a review team and assign a project manager who will have the overall responsibility for ensuring technical review is accomplished in a timely manner. The PM for the District performing the technical review will coordinate technical review comments and responses with the Vicksburg District SPM.

Manpower/Cost:

Vicksburg District	
Lump Sum	= $25,000
Non-Federal Sponsor	
Lump Sum	= $25,000
Total	= $50,000

Duration: 30 days

Draft Report Mailing

What: Consists of mailing individual and multiple copies of report to appropriate Federal, state, and local interests.

Why: To provide report for public review.

Who: One GS-10 Civil Engineering Technician and U.S. Mail Service.

When: Following printing of draft report.

How: U.S. Mail Service.

Manpower/Cost:

200 Volumes @ $30/volume	=	$6,000
GS-10 2 man-days @ $507/man-day	=	$1,014
Total	=	$7,014
	Use	$7,000

Duration: 3 days

Public Meetings

What: Prepare public meeting notices, speech, visual aids, informational handouts, and displays. Arrange facilities and transportation. Attend meetings and deliver presentations. The non-Federal sponsor will have primary responsibility for arranging and conducting public meetings with assistance from Corps staff.

Why: To ensure a quality presentation is made at public meetings.

Who: The non-Federal sponsor, one GS-13 SPM, one GS-12 Civil Engineer, and one GS-10 Civil Engineering Technician.

When: Following release of draft report and prior to responding to report comments.

How: Using personal computers with word processing and graphic arts software.

Manpower/Cost:

<u>Vicksburg District</u>		
GS-13 3 man-days @ $807/man-day	=	$2,421
GS-12 3 man-days @ $660/man-day	=	$1,980
GS-10 5 man-days @ $507/man-day	=	$2,535
Total	=	$6,936
	Use	$6,900
<u>Non-Federal Sponsor</u>		
15 man-days @ $800/man-day	=	$12,000
Total	=	$18,900

Duration: 30 days

Responding to Report Comments

What: Assemble all comments generated during public review. Disseminate comment to appropriate team members for responses. Prepare response on appropriate comments. Assemble all responses for inclusion in Coordination Appendix.

Why: To ensure that all public comment on the draft report is adequately considered and documented.

Who: One GS-13 SPM, one GS-12 Civil Engineer, and one GS-10 Civil Engineering Technician.

When: Following public comment period on draft report and prior to printing final report.

How: In-house labor using personal computers and coordinating with PDT members.

Manpower/Cost:

Vicksburg District		
GS-13 4 man-days @ $807/man-day	=	$3,228
GS-12 4 man-days @ $660/man-day	=	$2,640
GS-10 3 man-days @ $507/man-day	=	$1,521
Total	=	$7,389
Use		$7,400
Non-Federal Sponsor		
10 man-days @ $740/man-day	=	$ 7,400
Total	=	$14,800

Duration: 15 days

Final Report Preparation

What: Incorporation of revision of report following public review. Preparing final report, plates, and text. Preparing pagination sheets for printer. Coordinating with printer prior to and during printing. Print 200 copies of report.

Why: To ensure final document is prepared and printed on schedule.

Who: One GS-13 SPM and one GS-10 Civil Engineering Technician.

When: Following public comment period on draft report and prior to submission of final report.

How: Using in-house labor coordinating with printing contractor.

Manpower/Cost:

Vicksburg District		
GS-13 4 man-days @ $807/man-day	=	$3,228
GS-10 6 man-days @ $507/man-day	=	$3,042
Total	=	$6,270
	Use	$6,300
Non-Federal Sponsor		
8 man-days @ $625/man-day	=	$ 5,000
Total =	=	$11,300

Duration: 15 days

Preparation of draft Project Management Plan (PMP)

What: Development of the draft PMP.

Why: To develop the draft PMP for the project in accordance with established regulations.

Who: One GM-13 SPM, one GS-12 Civil Engineer, and one GS-10 Civil Engineering Technician.

When: To be accomplished during the second year of the feasibility study.

How: Coordinate with project team members to develop work activities, scope of work, cost estimates to perform the work, and timeframes for the work to carry the project through design and construction. The draft PMP will include the project execution plans, work breakdown structure charts, draft networks which have estimates of the duration and costs provided by other District elements, resource costs, milestones, program requirements, fully funded estimates, and other reports. It also includes coordination of input from the local sponsor and negotiation of duration and cost estimates provided by other District elements.

Manpower/Cost:

GS-13 7 man-days @ $807/man-day	=	$ 5,649
GS-12 4 man-days @ $660/man-day	=	$ 2,640
GS-10 5 man-days @ $507/man-day	=	$ 2,535
Total	=	$10,824
	Use	$10,800

Duration: Approximately 4 months, after data availability.

Finalize the PMP

What: To revise draft PMP after review.

Why: To incorporate comments into the draft PMP after CEMVK, CEMVD, and local sponsor review.

Who: One GS-13 SPM, one GS-12 Civil Engineer, and one GS-10 Civil Engineering Technician.

When: To be accomplished during the third year of the feasibility study.

How: Revise the draft PMP after CEMVK, CEMVD, and local sponsor review. May involve regenerating the networks and reports, recomputing the fully funded estimate, and printing the revised document. The final PMP must be forwarded to the local sponsor, and the CEMVK PRB for endorsement prior to forwarding the document to CEMVD.

Manpower/Cost:

GS-13	3 man-days @ $807/man-day	=	$2,421
GS-12	3 man-days @ $660/man-day	=	$1,980
GS-10	3 man-days @ $507/man-day	=	$1,521
Total		=	$5,922
		Use	$5,900

Duration: Approximately 1 month.

Prepare Cost-Sharing Agreement for Preconstruction Engineering and Design (PED)

What: Preconstruction Engineering and Design Agreement (PEDA)

Why: To prepare and negotiate the PEDA which lays out the scope, costs, and responsibilities for the Federal Government and the project sponsor for Preconstruction Engineering and Design phase of the project.

Who: One GS-13 SPM.

When: During the last year of the feasibility study.

How: Prepare and negotiate the PED Agreement from an existing model to address all of the project purposes. Involves coordination with the Office of Counsel, Real Estate, Cost Engineering, CEMVD, and the project sponsor.

Manpower/Cost:

GS-13	4 man-days @ $807/man-day	=	$3,228
		Use	$3,200

Duration: 3 months

Budget Support and Execution

What: Prepare study budget documents, justification sheets, briefing papers, budget factsheets, budget issue papers, etc. Funding and monitoring funds to separate office throughout CEMVK.

Why: To support SPM with periodic updates of budget documents and study status report.

Who: One GS-07 Program Analyst.

When: Throughout the feasibility study.

How: Prepare justification sheets, factsheets, briefing papers, issue papers, etc., required for initial, OMB, and congressional budget submissions. Assist the SPM with the annual budget preparation and follow up questions by CEMVD, HQUSACE, and congressional interests. Initiate funding down of funds to all District elements and monitoring obligations and expenditures for the 2101 report.

Manpower/Cost:

GS-07	4 man-days @ $400/man-day x 2.5 years	=	$ 4,000

Duration: Throughout the feasibility study.

Executive Committee Management and Oversight

What: In accordance with Article IV - Study Management and Coordination, of the FCSA, an Executive Committee consisting of named senior representatives will be appointed by the Government and non-Federal sponsor to generally oversee the study consistent with the PMP.

Why: To provide for consistent and effective communication.

Who: Senior representative of the Corps and non-Federal sponsor to be named subsequent to signing of the FCSA.

When: The Executive Committee shall meet regularly until the end of the study period. It is anticipated that the Committee will meet quarterly.

How: The Executive Committee will meet regularly and may make suggestions that it deems warranted to the District Engineer in matters that it oversees, including suggestions to avoid potential sources of dispute.

Manpower/Cost:

Vicksburg District
Costs accounted for in other work items.

Non-Federal Sponsor
4 members for 2 hours 4 times/year
32 total hours/year x $150/hour x 2.5 years = $12,000

Duration:

Supervision and Review

What: Supervision of activities associated with Planning and Project Management Branch. Review of products prepared within Planning and Project Management Branch.

Why: To assure that Branch goals and objectives are satisfied.

Who: One GS-14 Branch Chief.

When: Throughout feasibility study as required.

How: Through meetings and oral, written, and electronic communications.

Manpower/Cost:

GS-14	0.25 man-day @ $900/man-day X 30 months =	$6,750
	Use	$6,800

Duration: Continuous during feasibility phase.

PPPMD

Reports and Communications Center

Report Typing

What: Clerical support required to prepare preliminary, draft, and final reports including EIS and various appendixes.

Why: To prepare needed documentation of the feasibility study.

Who: One GS-07 Editorial Assistant and one GS-06 Editorial Assistant.

When: Throughout feasibility study.

How: With in-house labor using personal computers and appropriate word processing software.

Manpower/Cost:

20 man-days @ $300/day = $6,000

Duration: 20 days preliminary; 10 days draft; and 10 days final

Clerical Support

What: Preparation of letters, factsheets, and other forms of correspondence.

Why: To prepare written responses to appropriate inquiries and provide other miscellaneous documents to support the study.

Who: One GS-07 Editorial Assistant and one GS-06 Editorial Assistant.

When: Throughout feasibility study.

How: With in-house labor using personal computers and appropriate word processing software.

Manpower/Cost:

10 man-days @ $333/day = $3,333
Use $3,300

Duration: Continuous throughout feasibility study.

Public Meetings

What: Provide audiovisual equipment during scoping and public meetings, prepare audio tape of scoping and public meetings, and prepare typed transcription of scoping and public meetings.

Why: To provide a complete record of scoping and public meetings.

Who: One GS-07 Editorial Assistant and one GS-06 Editorial Assistant.

When: During and immediately after scoping meetings and public meetings.

How: With in-house labor using existing audiovisual equipment, personal computers, and appropriate word processing software.

Manpower/Cost:

10 man-days @ $500/day = $5,000

Duration: 10 days scoping meeting; 10 days public meetings

PPPMD

Environmental and Economic Analysis Branch

Economic Analysis Team

Supervision and Review

What: Project supervision includes program coordination and review of economic analyses. As a functional chief, the Team Leader also makes final decisions on technical review issues and exercises overall responsibility for the Quality Control Plan.

Why: Supervision by the Branch Chief is necessary to ensure that program goals are achieved within an effective organizational setting and that all products comply with ER-1105-2-100 and other relevant guidance.

Who: One GS-13 Supervisory Economist and one GS-14 Supervisory Economist.

When: This task occurs throughout the feasibility study.

How: Project supervision is accomplished through staff meetings, one-on-one meetings, official correspondence and other written communication.

Manpower/Cost:

GS-14 6 man-day @ $1,000/man-day	=	$ 6,000
GS-13 5.5 man-day @ $940/man-day	=	$ 5,170
Total	=	$11,170
	Use	$11,200

Duration: Throughout the entire study.

Scope of Study and Data Gathering

What: Involves activities for scoping complete economic feasibility and impact analysis for various alternatives. Identify data requirements for flood control analysis. Benefit categories include rural structures, urban structures, future land use, road and bridge, emergency costs, flood fighting, recreation, and fish and wildlife.

Why: Must provide format for incorporating data needs, issue resolution, administrative aspects, and actual evaluation accomplishments that accommodate economic requirements as part of the scope of study. Data collected will form the basis of every evaluation conducted.

Who: One GS-12 Regional Economist.

When: This task can begin upon receipt of study funds.

How: Field interviews will be conducted on a face-to-face basis as needed. Data collected will be documented on approved survey forms. Information from secondary sources will be utilized to the extent possible. Information will be gathered for all categories listed above and other categories as applicable. Data from previous evaluations will be utilized to the fullest extent. Survey data will be analyzed and utilized in the analysis. The results of the surveys will be kept for documentation purposes within the files in CEMVK-PP-PE.

Manpower/Cost:

GS-12 22 days of labor @ $792/day	=	$17,424
Travel and Misc Expenses	=	$ 1,500
Total	=	$18,924
	Use	$18,900

Duration: 40 days

Technical Analysis - Base Conditions

What: Compile all technical data on the base condition. Prepare and evaluate applicable analytical relationships. Compile data in appropriate digital formats and execute analysis utilizing appropriate computer programs. The HEC-FDA computer program will be utilized to evaluate existing and with-project flood damages. Data will be compiled in a Geographic Information System format to the extent possible. These data will be made available to the local sponsor at the end of the study.

Why: Establish technical data base. All alternative solutions that are evaluated will be compared to the base condition to determine benefits.

Who: One GS-12 Regional Economist.

When: This task can begin upon completion of the data collection phase.

How: Utilize an existing computer program or other methods to determine current and future damages based on existing hydraulic conditions. The computer program HEC-FDA will be utilized to evaluate structure damages.

Manpower/Cost:

GS-12 18 days of labor @ $792/day	=	$14,256
Total	=	$14,256
	Use	$14,300

Duration: 40 days

Technical Analysis - With-Project Conditions

What: Evaluate with-project conditions for flood control for existing and projected future urban development within the project impacted area of Hinds and Rankin Counties for each of the alternatives to be evaluated.

Why: The estimation of benefits of flood control under with-project conditions will be used to determine economic justification and selection of a recommended plan.

Who: One GS-12 Regional Economist.

When: This task can begin after completion of the base condition evaluation.

How: Evaluate with-project conditions for flood control for the various scenarios proposed to solve flood control problems and to determine the direction and extent of future urban expansion. An essential part of this process is the projection of extent and direction of future development expected under with-project conditions. Projections will be made utilizing data from primary and secondary sources.

Manpower/Cost:

GS-12 11 days of labor @ $792/day	=	$8,712
Total	=	$8,712
	Use	$8,700

Duration: 30 days

Conduct Risk and Uncertainty Analysis

What: Utilizing the HEC-FDA computer model, risk analysis will be conducted on the potential solutions of flood control problems in the project area.

Why: Risk analysis is required by ER 1105-2-100 and gives decision makers another tool to evaluate project effectiveness and reliability.

Who: One GS-12 Regional Economist.

When: This task can begin after completion of determining with-project flood control benefits.

How: Structure data collected in the survey and data collection portion of the study will be used to evaluate the sensitivity of project outputs to various assumptions about economic, hydraulic, environmental, or other factors. This analysis is essential in evaluating the reliability of the estimates of project benefits and costs. The results of this analysis will give decision makers a confidence limit for flood control benefits displayed in the analysis.

Manpower/Cost:

GS-12	2 days of labor @ $792/day =	$1,584
Total	=	$1,584
	Use	$1,600

Duration: 5 days

Conduct Net Benefit and Cost Analysis for Alternative Plans

What: Estimates of net benefits for each construction alternative will be prepared. The alternative that shows the highest level of net project benefits will be identified. Estimates of the average annual costs for each construction alternative must be prepared and displayed in the feasibility report in order to determine net project benefits.

Why: The alternative that exhibits the greatest difference between estimated benefits and costs contributes the most to the national economy. This plan constitutes the preferred plan from a public investment standpoint and is identified as the NED Plan. Economic feasibility of each construction alternative is measured by whether average annual project benefits exceed average annual project costs.

Who: One GS-12 Regional Economist.

When: This analysis can begin once project benefit and costs have been completed.

How: In net benefit analysis, estimates of average annual project costs are subtracted from average annual project benefits for each construction plan to yield estimates of average annual net project benefits. In optimization analysis, each alternative is evaluated according to the magnitude of average annual net project benefits. The plan that shows the highest level of net projects is designated as the NED Plan. In addition, the ratio of project benefits to project costs is calculated for all alternatives. Those alternatives that show benefit-to-cost ratios of 1.0 or greater are economically justified.

Manpower/Cost:

GS-12	2 days of labor @ $792/day =	$1,584
Total	=	$1,584
	Use	$1,600

Duration: 5 days

Regional Economic Analysis

What: Estimates of RED benefits will be quantified and displayed in the feasibility report.

Why: These benefits though not used for project justification are important in that they show the magnitude of impacts that the project would/could have on the local economy of the project area. The cost-sharing provisions of recent legislation have made non-Federal sponsors more active partners in the water resources development process. Potential impacts of Federal water projects, especially those impacts that occur within areas where projects are located are a major concern to local sponsors. Since these sponsors are now required to fund larger portions of project study costs as well as construction costs, analyses of benefits to be received by the local area can play an important role in securing local support.

Who: The non-Federal sponsor.

When: This analysis can begin with completion of the recreation analysis.

How: The area of project impacts will be identified and appropriate socioeconomic data collected and compiled. An economic input-output model will be utilized to evaluate the increases in primary and secondary local economic activity that is stimulated by increases in spending for the proposed water resource development project. The model will produce estimates of annual impacts in terms of business activity, personal income, and employment generated by the project for each industry impacted.

Manpower/Cost:

<u>Non-Federal Sponsor</u>	
37.5 man-days @ $800/man-day =	$30,000
Total =	$30,000

Duration: 35 days

Report Preparation

What: Report preparation consists of writing and editing a manuscript, which describes the methodology used in the economic analysis and the conclusions of the investigation. Included in this task is PDT review and technical review of the feasibility report.

Why: Report preparation is the principal means by which the results of the economic analysis are documented and communicated to other Corps elements, the local sponsor, and the public.

Who: One GS-12 Regional Economist.

When: Report preparation begins once risk-based analysis is completed.

How: Report input is a product of expository writing which presents in a detailed, clear, and logical manner an explanation of each step that was performed in the economic analysis and the results that were achieved. Report input is supplemented with numerous graphs and tables which not only provide all relevant data used in reaching conclusions but which systematically illustrate the study methodology employed.

Manpower/Cost:

GS-12	8.5 days of labor @ $792/day =	$6,732
Total	=	$6,732
	Use	$6,700

Duration: 20 days

Study Coordination and Review

What: Study coordination includes the planning and monitoring of study budgets and schedules, participation in staff meetings, PDT meetings, in-progress review conferences, and ad hoc meetings. Also included are staff supervision; public meetings attendance and presentations, processing of official correspondence, and preparation of inputs to meetings, conferences, and reviews to brief the Vicksburg District staff, CEMVD, and HQUSACE on study issues and status. Included in this task is review of the feasibility report.

Why: Study coordination is essential to ensure that the economic analysis is prepared within established schedules and budgets and that all resources are available to accomplish this goal. Review is required to ensure that the economics report and the study effort, which it documents, conform to all technical and policy requirements specified within ER 1105-2-100 and related guidance.

Who: One GS-13 Regional Economist and one GS-12 Regional Economist.

When: Study coordination and review of study tasks occur throughout the feasibility study. Review of the economics report begins after a manuscript summarizing the results of the analysis is complete.

How: Study coordination and review are accomplished through staff meetings, one-on-one meetings, official correspondence and other written communication. Report review is accomplished by conducting a rigorous critique of the report and resolving significant comments in one-on-one meetings.

Manpower/Cost:

GS-12	3 days of labor @ $792/day	=	$2,376
GS-13	2 days of labor @ $940/day	=	$1,880
Total		=	$4,256
		Use	$4,300

Duration: Throughout study process.

Conduct Financial Analysis

What: This analysis will identify and evaluate the strengths and weaknesses in the local sponsor's financial condition. Financial analysis is done to determine the capability of the local sponsor to participate financially as a partner in project implementation.

Why: Current administrative and legislative directives require development of a financial analysis in cost-shared studies for construction projects. This is done for the protection of the local sponsor as well as the Federal Government. This helps to ensure that projects that receive funding can be constructed without interruption.

Who: One GS-12 Regional Economist.

When: This task can begin as soon as benefit-cost analyses are done.

How: The financial analysis is done through meetings with the local sponsor or their representatives, such as an accounting firm, or financial advisor, or through official correspondence or other written documentation. The financial documentation provided by the local sponsor is evaluated to determine if the added responsibilities of the proposed project can be absorbed within the existing or expected cash flow.

Manpower/Cost:

GS-12 2 days @ $792/day	=	$1,584
GS-13 0.5 day @ $941/day	=	$ 500
Total	=	$2,084
	Use	$2,100

Duration: 10 days

PPPMD

Environmental and Economic Analysis Branch

Environmental Analysis Team

Initiate Preparation of the EIS, Interagency Coordination, and the Scoping Process

What: Publish Notice of Intent, invite appropriate Federal and state agencies to become cooperating agencies, assess the general environmental impacts of all alternative plans to be considered, conduct public scoping meeting, and prepare scoping documentation.

Why: This establishes an early and open process for determining the scope of issues to be addressed in the EIS. It is also a principal means to make information available to the public and for the Corps to take into account the views of the surrounding community and other interested members of the public during its planning and decision-making process. The scoping effort will be summarized and used to identify the major project-related issues to be addressed and emphasized in the EIS, guide the alternative's analyses and discussion of impacts provided in the EIS as required by ER 200-2-2, ER 1105-2-100, and 40 CFR Parts 1500-1508.

Who: One GS-13 Biologist and one GS-12 Project Biologist with input from other District elements.

When: The task would be performed early in the feasibility study.

How: Prepare and publish a Notice of Intent to prepare an EIS in the Federal Register. A letter will be prepared and sent to the FWS, Environmental Protection Agency (EPA), Mississippi Department of Wildlife, Fisheries and Parks, and Mississippi Department of Environmental Quality requesting them to become cooperating agencies, as defined in 40 CFR Part 1501.6, throughout this study effort. Prepare a public notice of the scoping meeting and mail to individuals and organizations known to have an interest in this project and inform the local media. Prepare for and conduct scoping meeting and prepare a transcript and summary of these efforts. Information necessary for this task would be available from information generated during the reconnaissance study. The generalized biological impact description would be obtained primarily through field trips to the study area, published reports, aerial photography, information collected for the reconnaissance study, unpublished information available from other agencies, and local interviews.

Manpower/Cost:

GS-12 14 days @ $700/day	=	$ 9,800
Travel and Misc Expenses	=	$ 250
Total	=	$10,050
	Use	$10,000

Duration: 60 workdays

Develop Environmental Setting and Future Without-Project Conditions

What: Determine and document the environmental setting features (physical and biological environment, social and economic environment, cultural resources, and recreational resources) and most probable future without-project conditions.

Why: For evaluation of alternatives and presentation in the draft EIS as required by ER 200-2-2.

Who: Biologist employed by an A-E firm under contract to the non-Federal sponsor with input from the Project Delivery Team and consultation with District biologists and other natural resource agencies to include FWS.

When: This task will be performed during the first year of the study.

How: Information would be obtained through field trips, published reports, aerial photography, the Draft 1996 Feasibility Report on the comprehensive levee plan prepared for the Jackson Metropolitan area, unpublished information available from other agencies, and local interviews.

Manpower/Cost:

<u>Vicksburg District</u>	
GS-12 5 man-days @ $800/day	= $4,000
<u>Non-Federal Sponsor</u>	
15 man-days @ $800/day	= $12,000
Total	= $16,000

Duration: 60 workdays

Biological Assessment for Threatened and Endangered Species

What: Prepare Biological Assessments for Threatened and Endangered Species

Why: The Endangered Species Act of 1977 requires that the action agency prepare biological assessments to determine if their action would be likely to affect any threatened or endangered species that would be present in the project area.

Who: Biologist employed by an A-E firm under contract to the non-Federal sponsor. The Biological Assessment prepared will be reviewed for adequacy by District biologists prior to submitting to FWS.

When: This task would be performed immediately after the HEP analysis has been completed and the recommended plan is formulated and assessed.

Manpower/Cost:

Vicksburg District	
2 man-days @ $800/day	= $1,600
Non-Federal Sponsor	
18.75 man-days @ $800/day	= $15,000
Total	= $16,600

Duration: 20 days

Environmental H&H Support

What: Provide base impacts of flooding by preproject and project conditions to waterfowl, terrestrial, aquatic, and wetland resources.

Why: To fully assess environmental impacts.

Who: Biologist employed by an A-E firm under contract to the non-Federal sponsor. District biologist(s) will review the mapping prior to use in the HEP analysis.

When: After base condition H&H analysis is completed.

How: Aerial extent of flooding will be overlaid on land cover maps to provide land cover of various flood events.

Manpower/Cost:

Vicksburg District	
3 man-days @ $800/day	= $2,400
Non-Federal Sponsor	
19 man-days @ $800/day	= $15,200
Total	= $17,600

Duration: 75 man-days

Public Involvement

What: Assist with public meetings and public awareness/information initiatives.

Why: Provide information to the public. Get input and guidance on the project.

Who: One GS-12 Biologist and biologist employed by an A-E firm under contract to the non-Federal sponsor.

When: Throughout the study.

How: Schedule formal public meetings in coordination with the non-Federal sponsor; hold informal workshops; and produce pamphlets, brochures, and maps to provide the necessary information to the public.

Manpower/Cost:

Vicksburg District		
GS-12 5 man-days @ $800/day	=	$4,000
Non-Federal Sponsor		
5 man-days @ $800/day	=	$4,000
Total	=	$8,000

Duration: Throughout the planning process.

Inventory and Data Collection (Field Reconnaissance)

What: Conduct general field reconnaissance of the project area, area geology, biology, economic conditions, social conditions, cultural resources, and general water quality.

Why: Allow specialists to jointly develop a strategy to address all of the resources concerned.

Who: Biologist employed by an A-E firm under contract to the non-Federal sponsor. One GS-12 biologist will jointly participate in this activity along with FWS representatives.

When: Early in the feasibility study.

How: Make field reconnaissance trips through the project area, visit critical locations such as diversion points, known wetland areas, archeological sites, and water quality problem areas.

Manpower/Cost:

Vicksburg District		
3 man-days @ $800/day	=	$2,400
Non-Federal Sponsor		
3 man-days @ $800/day	=	$2,400
Total	=	$4,800

Duration: 30 days

Evaluate Alternatives

What: Evaluate alternatives for economic, environmental, and engineering soundness.

Why: Provide the best options to the sponsor and PDT.

Who: Biologist employed by an A-E firm under contract to the non-Federal sponsor. District biologists will review the evaluation for completion and adequacy.

When: Since only the LeFleur Lakes alternative will be evaluated, soon after initiation of feasibility studies.

How: Utilize knowledge, experience, and technical principles to evaluate the alternatives.

Manpower/Cost:

Vicksburg District		
3 man-days @ $800/day	=	$2,400
Non-Federal Sponsor		
28 man-days @ $800/man-day	=	$22,400
Total	=	$24,800

Duration: 90 days

Perform Habitat Evaluation and Develop Fish and Wildlife Mitigation Plan

What: Conduct fieldwork for Fisheries Evaluation, Habitat Evaluation Procedures (HEP), and a Wetlands Assessment of areas potentially impacted by alternatives under consideration. Develop mitigation plans and environmental restoration plan for each viable alternative and prepare the written documentation. Plans would include measures to avoid and minimize impacts through project design and develop a compensation plan for unavoidable impacts to fish and wildlife habitat.

Why: Required to adequately address the project effects on fish and wildlife resources based on scientifically sound, ecologically credible, and logically responsible evaluation procedures. Mitigation planning is required by WRDA 86, Section 906. The habitat evaluation and mitigation plan are required for the following tasks: U.S. Fish and Wildlife Coordination Act Report; Prepare DEIS; and provide input to the Feasibility Report.

Who: A team of biologists employed by an A-E firm under contract to the non-Federal sponsor will have primary responsibility in this effort. Biologists from the Vicksburg District and FWS will be active participants in completing this task.

When: This task would be performed concurrent with the task, Develop Environmental Setting, and Future Without-Project Conditions, but could not be completed until the design of selected alternatives is complete.

How: The Fisheries Evaluation, terrestrial HEP, and Wetland Assessment will be conducted in cooperation with personnel from all cooperating agencies. Field trips will be necessary to quantify existing habitat conditions. The EIS coordinator with the help of the cooperating agencies will provide ideas and technical information to develop the mitigation plans.

Manpower/Cost:

$90,000 (Fisheries) + $70,500 (HEP) + $45,000 (Wetland) + $11,000 (Cumulative) = $216,500

Vicksburg District		
10 percent of total effort	=	$21,700
Non-Federal Sponsor		
90 percent of total effort	=	$194,800
Total	=	$216,500

Duration: 120 workdays

Fish and Wildlife Coordination Act Report and Waterfowl Evaluation

What: This task provides for coordination by FWS personnel in impact identification and analysis, Fisheries Evaluation, HEP, Waterfowl, and Wetland analyses, mitigation planning, and for the preparation of the FWS Coordination Act Report.

Why: A Coordination Act Report is required by the Fish and Wildlife Coordination Act. The EIS will contain responses to the recommendations contained in the Coordination Act Report.

Who: FWS, Jackson Field Office, Jackson, Mississippi, with coordination of a GS-12 project biologist.

When: Mitigation planning would occur after alternative plans are developed. The Coordination Act Report would be required in time to incorporate recommendations into the EIS, but could not be complete until the design of selected alternatives is complete.

How: FWS would provide professional assistance in developing and evaluating mitigation plans for the various alternatives. The Coordination Act Report would contain a detailed description of the biological resources found in the study area; an evaluation of the effects of the alternatives, and recommended mitigation features that may include avoidance, minimization; and compensation for impacts to fish and wildlife resources or habitats. Conduct fieldwork for a Waterfowl Evaluation of areas potentially impacted by viable alternatives under consideration. Develop plans for avoid-and-minimize impacts, environmental design features, and prepare the written documentation. FWS will use their collective personal knowledge, published literature, comments of the Mississippi Department of Wildlife, Fisheries and Parks, and the Mississippi Department of Environmental Quality, and their appropriate regulations to prepare the report. The Vicksburg District and non-Federal sponsor will share equally in the cost of this activity.

Manpower/Cost:

FWS Lump sum = $120,000

Duration: 210 workdays

Complete the EIS, Environmental Appendixes, and Provide Input to the Draft Feasibility Report

What: Specific items include documentation of Prime and Unique Farmland Coordination, Threatened and Endangered Species Consultation, Section 404(b)(1) evaluation and preparation of environmental input for the draft feasibility report.

Why: An EIS is required by the National Environmental Policy Act of 1969. Environmental appendixes are necessary to satisfy requirements of various environmental laws and regulations including, but not limited to, the Farmland Protection Policy Act, Endangered Species Act, and Clean Water Act.

Who: Biologist employed by an A-E firm under contract to the non-Federal sponsor with input from other District elements and cooperating agencies. District biologists will have the responsibility of reviewing the EIS input for completeness and adequacy.

When: During later stage of the feasibility study after a recommended plan is developed. This task cannot be completed until the following tasks are completed: Assess Biological Impacts of Alternatives; Cultural Resources Input to the EIS; Water Quality Analysis; Social and Economic Input to the draft EIS; Develop Fish and Wildlife Impacts, Mitigation Plan; and possibly an Environmental Restoration Plan, Recreation and Esthetic input to EIS; and HTRW Site Assessment.

How: Prepare narrative for various sections of the draft EIS. Specifically, the cover sheet, summary, table of contents, list of figures, list of tables, purpose and need for action, alternatives including proposed action, affected environment, environmental impacts including a discussion of the impacts that can and cannot be avoided, list of preparers, mailing list, index, and appendixes must be prepared and formatted into an appropriate written presentation. Most of the information to be presented in the DEIS will be generated during the later stages of the investigations. Relevant published and unpublished literature would be used to substantiate assumptions made concerning existing and future conditions. Published literature will be used to prepare biological assessments for threatened and endangered species if assessments are warranted. The 7 CFR 658 would be used to analyze impacts to prime and unique farmlands. The Section 404 (b) (1) evaluation will follow the format found in Appendix N to ER 1105-2-100. The EIS coordinator will consult with appropriate agencies and prepare documentation of compliance.

Manpower/Cost:

Vicksburg District	
5 man-days @ $800/day	= $4,000
Non-Federal Sponsor	
37.5 man-days @ $800/day	= $30,000
Total	= $34,000

Duration: 100 workdays

Revise EIS, Environmental Appendixes, and the Environmental Input for Draft Feasibility Report

What: Respond to issues identified during technical review concerning the Feasibility Report, EIS, mitigation plans, or other items of the appendixes.

Why: In order to gain approval of higher authority to release the report for public review and comment and improve the quality of the report. Public review of a DEIS is required by NEPA and CEQ guidelines (33 CFR 1500-1508)

Who: Biologist employed by an A-E firm under contract to the non-Federal sponsor with input from District biologists.

When: As soon as the technical review has been completed.

How: The EIS coordinator will be responsible for responding to technical review comments and any other issues concerning the EIS, mitigation plans, and other environmentally-related items. The EIS coordinator will specifically address technical review comments and integrate any necessary modifications to the EIS and environmental appendices. Prepare a hard copy of the EIS and appendixes for integration into the feasibility report. File the EIS with EPA and distribute the EIS to other agencies and the public. Participate in public meeting(s) on the EIS.

Manpower/Cost:

Vicksburg District	
2 man-days @ $800/day	= $1,600
Non-Federal Sponsor	
9.5 man-days @ $800/day	= $7,600
Total	= $9,200

Duration: 15 workdays

Prepare final EIS, Environmental Appendixes, Input for Final Feasibility Report, and Coordinate

What: Respond to issues contained in the Planning Guidance Memorandum (PGM) concerning the EIS, mitigation plans, or other environmentally-related items by modifying the draft EIS and other environmentally related sections of the report and its appendixes. Prepare responses to agencies and the public on the environmental documentation and mitigation plans for inclusion in the public views and comments appendix. Modify the draft EIS to address comments and prepare the final EIS and environmental appendixes.

Why: Regulations previously cited require agencies to consider comments received on a draft EIS.

Who: Biologist employed by an A-E firm under contract to the non-Federal sponsor with input from District biologists.

When: Beginning immediately following the 45-day public review and comment period on the draft EIS.

How: The EIS coordinator will be responsible for responding to the PGM, public review comments, and any other issues concerning the EIS, mitigation plans, and other environmentally-related items (i.e., request water quality certification). The EIS coordinator will specifically address public comments and integrate any necessary modifications, as necessary, to the EIS and its environmental appendix. Depending on the scope of the issues, additional information may have to be researched and documented, text may have to be edited, and mitigation plans and costs may have to be modified or updated.

Manpower/Cost:

Vicksburg District	
2 man-days @ $800/day	= $1,600
Non-Federal Sponsor	
9.5 man-days @ $800/day	= $7,600
Total	= $9,200

Duration: 25 workdays

Prepare Draft Record of Decision

What: The Draft Record of Decision identifies alternatives considered; designates the agencies and environmentally preferable alternative or alternatives; the relevant factors including economic and technical considerations, statutory missions, and national policy which were balanced to make the decision; and whether all practicable means to avoid or minimize environmental impacts have been adopted, and if not, why not.

Why: A Draft Record of Decision is prepared to document the Corps final decision on a proposed action requiring an EIS as required by Section 105.2 of NEPA, the Environmental Quality Improvement Act of 1970 as amended, ER 200-2-2, and ER 1165-2-1. The Draft Record of Decision is prepared to identify, in a logical manner for the public, the factors which led to the conclusions and recommendations presented in the FEIS.

Who: One GS-12 project biologist.

When: The Draft Record of Decision will be prepared following the public comment period on the Final EIS.

How: The District EIS coordinator will be responsible for preparing the Draft Record of Decision based on information contained in the final EIS, and comments by Federal and state agencies, and the public.

Manpower/Cost:

6.25 man-days @ $800/day = $5,000

Duration: 15 workdays

Cultural Resource Analysis

What: Initiate consultation with the appropriate State Historic Preservation Officer, the Advisory Council on Historic Preservation, Indian tribes, and other parties with interest in the effects of the project on historic properties, traditional cultural properties, or significant cultural resources which may occur within the project's area of potential effect. In cooperation with the sponsor, develop a research design for conducting cultural resources studies necessary to identify historic properties; update information collected during previous studies; evaluate alternative plans in terms of relative impact on historic properties; notify and consult throughout the study process on any actions that may have the potential to affect historic properties; seek ways to avoid, minimize, or mitigate any adverse effects; and assist in plan selection. A Memorandum of Agreement (MOA) including a research design or Scope of Work identifying the responsibilities of the Government and those activities to be delegated to the sponsor will be prepared in accordance with applicable regulations and guidelines.

Why: Cultural resource considerations are required under the National Historic Preservation Act of 1966, as amended, 36 CFR 800, ER 1105-2-100, and Corps Policy on Executive Orders 13007, 13084, and 13287.

Who: One GS-12 archeologist with input from the non-Federal sponsor and other District elements. The non-Federal sponsor will acquire the services of a qualified archeologist(s) to perform the necessary field investigations.

When: This task would be initiated as soon as funds are made available.

How: Initial coordination and preparation of a Memorandum of Agreement for identifying the roles and responsibilities of the agency along with those activities to be delegated to the sponsor will be initiated, administered and managed in-house. The sponsor will be responsible for providing input and recommendations during the development of a research design for conducting cultural resources investigations. The sponsor will be responsible for acquiring all rights of entry and permissions needed for conducting Phase I sample surveys, submitting a draft report of investigations, and addressing recommended changes or corrections in the final reports of investigations. The sponsor will be responsible for returning or curating artifacts and information generated as a result of the investigations in accordance with terms to be identified in the research design. The evaluation and documentation of information generated as a result of the investigations and coordination will be provided to the sponsor who shall be responsible for preparing the required input to both the Environmental Impact Statement and the main reports.

Manpower/Cost:

<u>Vicksburg District</u>			
GS-12 Archeologist 65 man-days @ $640/man-day		=	$41,600
<u>Non-Federal Sponsor</u>			
In-House Labor	TBD	=	
Contract Archeologist	TBD	=	
Subtotal		=	$175,500
Total		=	$217,100

Duration:

District Office Review

What: Conduct District Office review of Main Report, EIS, and other appropriate appendixes. Prepares documentation for technical review package.

Why: To ensure a quality report is prepared.

Who: GS-12 Biologist.

When: Throughout the study. Review all documents.

How: Through the review of biologist not assigned to Project Delivery Team.

Manpower/Cost:

GS-12 Biologist 6.25 days of labor @ $800/day	=	$5,000

Duration: Throughout the study.

Study Coordination

What: Supervision of District environmental studies and coordination with the non-Federal sponsor and their biologists.

Who: GS-13 Environmental Team Leader.

When: Throughout the study.

How: Review and provide comments on all draft and final environmental study results, and attend public meetings.

Manpower/Cost:

GS-13 Team Leader 7.5 days @ $800/day	= $ 6,000
Total	= $ 6,000

Duration: Throughout the study.

ENGINEERING DIVISION

Hydraulics Branch
Hydrology Engineering Section

Evaluate Existing Conditions

What: Conduct hydraulic and hydrologic analyses to establish existing (base) conditions.

Why: To serve as the basis for determining project alternative impacts.

Who: One GS-13 Section Chief (Hydraulic Engineer) and one GS-12 Hydraulic Engineer.

When: As soon as study funds are made available.

How: Review existing H&H conditions as determined in the Jackson Metro Feasibility Study and the LeFleur Lakes Plan analysis. Evaluate available stage, discharge, channel geometry, overbank, and basin development changes that have occurred since completion of the previous studies. Acquire new data as required. Convert the existing base conditions HEC-2 model to a HEC-RAS model. Check model input parameters (channel flows, channel geometry, Manning's n values) and recalibrate the model to known events to ensure that it simulates current conditions. Make model runs to develop existing conditions flowlines. Acquire channel geometry surveys, stage and discharge, miscellaneous technical data as required.

Manpower/Cost:

GS-13 Hydraulic Engineer 7 man-days @ $820/day =	$ 5,740
GS-12 Hydraulic Engineer 29 man-days @ $700/day =	$20,300
Total =	$26,040
Use	$26,000

Duration: 3 months

Evaluate Flood Control Alternatives

What: Conduct hydraulic and hydrologic analyses for the levees alternative and for the LeFleur Lakes alternative.

Why: To determine project impacts for each study alternative through the study reach. Also, to determine the impacts of each alternative on downstream reaches.

Who: One GS-13 Section Chief (Hydraulic Engineer) and one GS-12 Hydraulic Engineer.

When: Upon completion of existing (base) conditions analyses.

How: Review and modify as required all data, H&H models, and analyses previously used for the levees plan and the LeFleur Lakes plan. This includes reviewing post project duration and frequency analyses including the levees plan risk and uncertainty analysis, converting the levees plan HEC-2 model to a HEC-RAS model, reviewing the levees plan Interior Flood Hydrology (IFH) model and UNET unsteady flow model, reviewing the two lakes plan HEC-RAS model, and reviewing the LeFleur Lakes plan unsteady flow model.

Manpower/Cost:

GS-13	14.5 man-days @ $820/day	=	$11,890
GS-12	72 man-days @ $700/day	=	$50,400
Total		=	$62,290
		Use	$62,300

Duration: 6 months

Sedimentation Assessment

What: Assess the existing and with-project sediment rates, locations, and sources.

Why: To determine project sediment impacts including maintenance requirements.

Who: One GS-13 Section Chief (Hydraulic Engineer) and one GS-12 Hydraulic Engineer.

How: By evaluating historical sediment data and by conducting both existing and with project qualitative sediment analyses. These analyses include channel stability and sediment transport capacity comparisons.

When: As soon as the existing and postproject H&H analyses are completed.

Manpower/Cost:

GS-13	2 man-days @ $820/day	=	$1,640
GS-12	7.5 man-days @ $700/day	=	$5,250
Total		=	$6,890
		Use	$6,900

Duration: 1 month

Environmental Support

What: Develop H&H input for environmental analyses.

Why: To determine project impacts to aquatics, terrestrial, waterfowl, and wetlands.

Who: One GS-13 Section Chief (Hydraulic Engineer) and one GS-12 Hydraulic Engineer.

How: By developing seasonal duration data and acres flooded for existing conditions and for each project alternative. This work is accomplished by evaluating stage data using H&H computer analyses and by using available basin topography data.

When: As H&H analyses for existing (base) conditions and for project alternatives are completed.

Manpower/Cost:

GS-13 Hydraulic Engineer	4 man-days @ $820/day	= $ 3,280
GS-12 Hydraulic Engineer	14.5 man-days @ $700/day	= $10,150
Total		= $13,430
		Use $13,400

Duration: 2 months

Project Management Support

What: Serve as the Engineering Division Coordinator. Provide technical data to Planning and Project Management Branch and prepare and present technical briefings. Attend and participate in study team meetings, scoping meetings, and briefings for higher authority, local sponsors, and the public.

Why: To coordinate the efforts of Engineering Division to insure that project requirements and schedules are met. To establish study goals and objectives, share results, and provide technical data during the study process.

Who: One GS-13 Section Chief (Hydraulic Engineer) and one GS-12 Hydraulic Engineer.

When: As required during the study.

How: By making the SPM aware of problems and keeping the SPM abreast of study progress through regular contact. By attending project meetings and briefings and making technical presentations.

Manpower/Cost:

GS-13	14 man-days @ $820/day	=	$11,480
GS-12	15 man-days @ $700/day	=	$10,500
Total		=	$21,980
		Use	$22,000

Duration: Throughout the study.

District Office Review

What: Conduct District Office Review of H&H analyses and study findings. Resolve all review comments.

Why: To ensure technical analyses are in compliance with acceptable hydraulic and hydrologic methodologies and principles. To meet the study quality assurance/quality control requirements.

Who: One GS-13 Section Chief (Hydraulic Engineer) and one GS-12 Hydraulic Engineer.

When: Throughout the study as major elements of the H&H analyses are completed.

How: By review of completed portions of the hydraulic and hydrologic analyses by experienced, technically knowledgeable hydraulic engineers. Review comments and resolution responses are documented in hard copy and electronic formats and are discussed verbally.

Manpower/Cost:

GS-13	3.5 man-days @ $820/day	=	$2,870
GS-12	7.5 man-days @ $700/day	=	$5,250
Total		=	$8,120
		Use	$8,000

Duration: Throughout study as required.

Study Documentation

What: Prepare H&H input to draft and final engineering appendices.

Why: To present study findings and provide appropriate documentation and background data on H&H methodologies, analyses, and results.

Who: One GS-13 Section Chief (Hydraulic Engineer) and one GS-12 Hydraulic Engineer.

When: Upon completion of all H&H analyses.

How: Written narrative and tables plus mapping and plots for the report.

Manpower/Cost:

GS-13	3.5 man-days @ $820/day	=	$ 2,870
GS-12	18 man-days @ $700/day	=	$12,600
Total		=	$15,470
		Use	$15,500

Duration: 2 months

ENGINEERING DIVISION

Hydraulics Branch
Water Quality Section

Off-Site Wetland Delineation

What: Off-site wetland delineation.

Why: To comply with "no net loss" of wetlands policy.

Who: One GS-11 and one GS-13.

When: During first 6 months of study.

How: Through the application of remote sensing to satellite imagery.

Manpower/Cost.

GS 11 18 man-days @ 640/day	=	$11,520
GS 13 7 man-days @ $800/day	=	$ 5,600
Total	=	$17,120
	Use	$17,100

Duration: 90 workdays

Stage-Area Curve Development

What: Stage-area curve development.

Why: To determine the aerial extent of flooding.

Who: One GS-11 and one GS-13.

When: During first year of study.

How: With the use of Arc View GIS and satellite imagery.

Manpower/Cost: $24,300

Duration: 180 workdays

FEAT Modeling

What: Perform the FEAT modeling studies.

Why: To provide the postproject hydrologic conditions.

Who: One GS-11 Hydraulic Engineer and one GS-13 Environmental Engineer.

When: During first year of study.

How: By setting up and running the model.

Manpower/Cost: $18,500

Duration: 90 days

Water and Sediment Samples

What: To collect water and sediment samples.

Why: To comply with Section 404 of Clean Water Act.

Who: One GS-12 Aquatic Biologist and one GS-13 Environmental Engineer.

When: During the first year of study.

How: By collecting water and sediment samples.

Manpower/Cost: $5,000

Duration: 60 days

Other Cost:

Analysis of water and sediment samples	$18,000
Total	$23,000

Water Quality Appendix

What: Prepare water quality report.

Why: To comply with NEPA.

Who: One GS-12 Aquatic Biologist and one GS-13 Environmental Engineer.

When: Second year of feasibility study.

How: Collect and analyze water quality data; then write the report.

Manpower/Cost: $26,000

Duration: 90 workdays

Hazardous, Toxic, and Radioactive (HTRW) Assessment

What: Perform a preliminary assessment of the lands impacted by construction of the proposed alternatives.

Why: To identify potential HTRW concerns prior to project construction as required by ER 1165-2-132.

Who: The non-Federal sponsor will perform the HTRW assessment by employing specialists trained in HTRW assessment.

When: After the weir sites have been identified and the area impacted by the LeFleur Lakes has been delineated.

How: HTRW specialist will conduct site investigations, record searches, and interviews of current landowners for information regarding HTRW and potential HTRW problems.

Manpower/Cost: $25,000 (includes travel and per diem).

Duration: 45 workdays

District Office Review

What: District office review.

Why: To ensure report is technically correct and in accordance with Corps policy.

Who: One GS-12 Environmental Engineer.

When: Second year of feasibility study.

How: Review water quality accomplishments.

Manpower/Cost: $3,600

Duration: 30 days.

ENGINEERING DIVISION

Geotechnical Branch

Supervision, Review, and Clerical Support

What:. Supervision of all sections of Geotechnical Branch, providing input to the project as well as review of all input. Clerical support including typing.

Why: To assure that Branch goals and objectives are satisfied. To provide typing of completed documents and correspondence.

Who: One GS-14 Civil Engineer and one GS-5 Secretary.

When: During all phases of the project requiring input from Geotechnical Branch.

How: Through meetings and oral, written, and electronic communications. By typing Geotechnical input for the engineering appendix of the feasibility report and the project management plan.

Manpower/Cost:

GS-05	8 days @ $335/man-day	=	$1,930
GS-14	8 days @ $1,005/man-day	=	$5,789
Total		=	$7,719
		Use	$7,700

Duration: Throughout the feasibility study, as required.

ENGINEERING DIVISION

Geotechnical Branch
Analytical Section

District Office Review

What: Assist in performing geotechnical District Office review.

Why: To ensure compliance with all technical and policy requirements.

Who: One GS-12 Civil Engineer.

When: Throughout the feasibility phase.

How: Through review of geotechnical investigation and design.

Manpower/Cost:

GS 12	4 man-days @ $715/day	=	$2,860
		Use	$2,900

Duration: Throughout the feasibility phase.

PMP Support

What: Provide input for the PMP.

Why: To ensure all geotechnical activities are included in the PMP.

Who: One GS-12 Civil Engineer, one GS-13 Supervisory Civil Engineer.

When: After selection and refinement of the recommended plan.

How: Prepare estimate of time, effort, and duration of geotechnical involvement required for the remaining design and the development of plans and specifications. Review and comment on the PMP.

Manpower/Cost:

GS-12	3.5 days @ $715/man-day	=	$2,503
GS-13	.75 day @ $830/man-day	=	$ 623
Total		=	$3,126
		Use	$3,100

Duration: 14 days

Geotechnical Analysis and Design

What:. Perform preliminary geotechnical design for the LeFleur Lakes plan.

Why: Determine geotechnical requirements to support cost estimates.

Who: One GS-9 Civil Engineering Technician, one GS-11 Civil Engineering Technician, one GS-07 Civil Engineer, one GS-12 Civil Engineer, and one GS-13 Civil Engineer.

When: Throughout the study.

How: Research existing soil data. Make a site visit to layout borings and determine physical features affecting design. Plot boring profiles. Reduce CPT data. Perform bearing capacity, settlement, uplift, underseepage, and overturning analyses of the two weirs and seawall. Perform representative stability analyses for the relocated levee and channel enlargements. Prepare seepage charts for levees, evaluate underseepage and settlement for levee relocation.

Manpower/Cost:

GS-07	18 days @ 385/man-day	=	$ 6,930
GS-09	17 days @ $480/man-day	=	$ 8,160
GS-11	27 days @ $600/man-day	=	$16,200
GS-12	76 days @ $715/man-day	=	$54,340
GS-13	10 days @ $830/man-day	=	$ 8,300
Per Diem, Auto Rental, Reproduction		=	$ 2,000
Total		=	$95,930
		Use	$95,900

Duration: 190 days

Geotechnical Portion of Engineering Appendix

What: Prepare geotechnical portion of the Engineering Appendix.

Why: To provide Engineering Appendix for feasibility report.

Who: One GS-09 Civil Engineering Technician, one GS-11 Civil Engineering Technician, one GS-12 Civil Engineer and one GS-13 Civil Engineer.

When: After design of selected plan.

How: Prepare text and plans to document geotechnical design to support the selected plan as required by ER 1110-2-1150.

Manpower/Cost:

GS-09	6 days @ $480/man-day	=	$ 2,880
GS-11	3.5 days @ $600/man-day	=	$ 2,100
GS-12	6 days @ $715/man-day	=	$ 4,290
GS-13	.75 day @ $830/man-day	=	$ 623
Total		=	$ 9,893
		Use	$ 9,900

Duration: 25 days

ENGINEERING DIVISION

Geotechnical Branch
Geotechnical Data Section

Subsurface Investigation

What:. Investigate subsurface conditions at structure sites and along the alignment of the levee setbacks and new levee.

Why: To determine subsurface conditions which will be used in foundation design of the weirs and levees.

Who: One WL-10 Drill Rig Operator Leader, one WG-11 Drill Rig Operator, one WG-10 Drill Rig Operator, one GS-12 Civil Engineering Technician, one GS-10 Civil Engineering Technician, two GS-9 Civil Engineering Technicians, and one GS-5 Clerk.

When: Phase 1 - After weir, seawall, and levee alignment are set and right-of-entry is obtained.

Phase 2 - After Phase 1, soil data are reduced and evaluated.

How: Phase 1—30 CPT's and 6 soil borings along alignment of the weirs, seawall, and relocated levee alignment. Install six piezometers. Obtain x y coordinates on all holes.

Phase 2—18 CPT's and 8 borings on the weir, seawall and levee alignment. Obtain x y coordinates of all holes.

Manpower/Cost:

WG-10	15 days @ $455/man-day	=	$ 6,825
WG-11	15 days @ $435/man-day	=	$ 6,525
WG-10	15 days @ $400/man-day	=	$ 6,000
GS-10	15 days @ $560/man-day	=	$ 8,400
GS-09	32 days @ $480/man-day	=	$15,360
GS-12	14.5 days @ $700/man-day	=	$10,150
GS-05	14.5 days @ $335/man-day	=	$ 4,858
Subtotal		=	$58,118
Per Diem, Equipment, and Supplies		=	$21,300
Total		=	$79,418
		Use	$79,400

Duration: Phase 1, 41 days; Phase 2, 30 days

Laboratory Testing

What: Perform laboratory tests on soil samples obtained from the subsurface investigation.

Why: To determine soil classification of all samples that are to be used in geotechnical analysis, for stratification of the foundation and for preliminary estimates of soil strength.

Who: One GS-7 Civil Engineering Technician, one GS-12 Civil Engineer, and one GS-12 Geologist.

When: After completion of Phase 1 and then Phase 2 subsurface investigation.

How: Ship and receive soil samples. Perform visual classification, water content determination, grain-size analyses, Atterberg Limits, and unconfined compression tests on soil samples. Have triaxial testing performed by ERDC Soils Laboratory on selected samples.

Manpower/Cost:

GS-07	8 days @ $405/man-day	=	$3,240
GS-12	3 days @ $700/man-day	=	$2,100
GS-12	.75 day @ $715/man-day	=	$ 536
Testing by other agency		=	$3,500
Total		=	$9,376
		Use	$9,400

Duration: 30 days

ENGINEERING DIVISION

Geotechnical Branch
Technical Investigation Section

PMP Support

What: To provide input to the PMP.

Why: To ensure all geotechnical activities are included in the PMP.

Who: One GS-12 Geologist and one GS-13 Supervisory Civil Engineer.

When: After selection and refinement of recommended plan.

How: Prepare estimate of time effort and duration of Technical Investigation Section involvement required for the remaining design and preparation of plans and specifications. Review and comment on the PMP.

Manpower/Cost:

GS-12	1.5 man-days @ $700/man-day	=	$1,050
GS-13	.75 man-day @ $830/man-day	=	$ 623
Total		=	$1,673
		Use	$1,700

Duration: 7 days

District Office Review

What: Assist in performing geotechnical District Office review.

Why: To ensure compliance with all technical and policy requirements.

Who: One GS-12 Geologist.

When: Throughout the feasibility phase.

How: Through review of geotechnical investigation and design.

Manpower/Cost:

GS-12 2 man-days @ $700	= $1,400

Duration: Throughout the feasibility phase.

Ground-Water Impact Assessment

What: Assess the impact to the ground water due to ponding water at weirs.

Why: To determine each alternatives effect on ground water.

Who: One GS-12 Geologist.

When: During the alternative and selected plan design.

How: Through field collection of water level data and researching existing data.

Manpower/Cost:

GS-12 8 man-days @ $700/man-day	= $5,600
Auto Rental: Vehicle	= $ 500
Total	= $6,100

Duration: 30 days

Regional and Site Geology

What: Prepare regional and site geology report and evaluate engineering considerations impacting the alternatives and selected plan.

Why: To determine geological effects on the various alternatives.

Who: One GS-12 Geologist.

When: Near the beginning of the feasibility study.

How: Through researching existing geological data and evaluating subsurface investigation results. Documentation for Engineering Appendix.

Manpower/Cost:

6 man-days @ $700/man-day = $4,200

Duration: During design of alternatives

Materials Engineering

What: Perform design and analysis of stone protection, filters, and approved construction materials by materials engineer.

Why: To ensure adequate material selection and stone protection of project design.

Who: One GS-12 Civil Engineer.

When: During design.

How: Thorough design and review of stone protection and materials selection criteria.

Manpower/Cost:

GS-12 2 man-days @ $735/man-day = $1,470
Use $1,500

Duration: 10 days

Dam Assessment

What: Ross Barnett Reservoir Dam Assessment.

Why: To evaluate impacts of raising the tailwater on the dam.

Who: The non-Federal sponsor or their contractor(s) will be responsible for completing this work item.

When: During weir design.

How: Through investigation of current geotechnical aspects of dam operation and changes due to proposed tailwater raising.

Manpower/Cost:

Non-Federal Sponsor
GS-13 20 man-days @ $750/man-day = $15,000

Duration:

Supervision and Review

What: Perform supervision and review for Technical Investigation Section

Why: To ensure compliance with all technical and policy requirements.

Who: One GS-13 Civil Engineer.

When: Throughout the feasibility study.

How: Through project review as required.

Manpower/Cost:

GS-13 2 man-days @ 830/man-day = $1,660
Use $1,700

Duration: Throughout the feasibility study.

ENGINEERING DIVISION

Design Branch
Structures Section

What: Preliminary site work, layout, design, detailing, quantities, supervision, coordination, report input, and review of input for two weirs, evaluating one highway bridge and evaluating one railroad bridge.

Why: To develop sufficient project layout, details, and design for quantities to develop feasibility level cost estimates.

Who: Primarily Civil Engineers and technicians, and equivalent counterparts working for the non-Federal sponsor or their contractors.

When: Throughout the feasibility study as required.

How: Through meetings between the Corps and non-Federal sponsor or their contractors, coordination with other disciplines, and development of design and details based on past experience on similar projects.

Manpower/Cost: $237,600 (See Table 1 for list of work items and estimated costs. See Table 2 for the division of responsibilities between the Corps and the non-Federal sponsor.)

Duration: Approximately 2 years, but throughout the feasibility study as required.

ENGINEERING DIVISION

Design Branch
Civil, Mechanical, and Electrical Section

What: Evaluate the pumps and electric motors of the pump stations and discharge systems and valves. Quantities and/or costs will be provided for the mechanical equipment and the electrical equipment necessary to upgrade the pump stations. The Mechanical and Electrical portion of the Engineering Appendix will be provided for the recommended plan.

Why: To develop sufficient details, and design quantities to develop feasibility level cost estimates.

Who: Mechanical and Electrical Engineers employed by the non-Federal sponsor or their contractors. One GS-12 from Design Branch will be the point of contact for this work item, being responsible for coordination activities with the non-Federal sponsor or their representative.

When: Primarily during the second and third year of the feasibility study, but throughout the study as required.

How: Through meetings, coordination with other disciplines, and development of design and details based on past experience on similar projects.

Manpower/Cost: $50,700 (See Table 1 for list of work items and estimated costs. See Table 2 for the division of responsibilities between the Corps and the non-Federal sponsor.)

Duration: Approximately 2 years, but throughout the feasibility study as required.

TABLE 1
STRUCTURES SECTION AND CIVIL, MECHANICAL AND ELECTRICAL SECTION COST ESTIMATE
PEARL RIVER WATERSHED

Task	Man-Days			Total ($)
	GS-13	GS-12	Tech	
CEMVK-ED-DS				
Evaluation of Alternative Plans				
Site Investigation and Selection	2	11		8,800
Prepare, Plan, Profile, and Conceptual Detail Drawings		21	22	25,600
Earthwork Computations		8	9	15,000
Preliminary Design of Two Weirs		32		25,000
Structural Quantity Computations		11	11	15,000
Evaluation of Six Highway Bridges				
Evaluation of Highway 25/Lakeland Drive Bridge		4	2	6,000
Evaluation of I-55 Bridges		4	2	6,000
Evaluation of Old Brandon Road Bridge		4	2	6,000
Evaluation of Highway 80 Bridge		4	2	6,000
Evaluation of I-20 Bridges		4	2	6,000
Evaluation of Proposed Airport Parking Bridge		4	2	6,000
Evaluation of Two Railroad Bridges		4	2	10,000
Refine Estimate for Selected Plan				
Refine Design		29	6	21,400
Determine Real Estate Requirements		12	12	15,000
Coordination of Engineering Design		28		18,400
Prepare Text and Plates for Engineering Appendix		28	30	30,400
District Office Review of Draft Feasibility Rpt		8		5,600
Resolve Comments		11		7,200
Provide Input for PMP	2	4		4,200
Subtotal (CEMVK-ED-DS)				237,600
CEMVK-ED-DC				
Refine Estimate for Selected Plan				
Pump Station Design		22		14,500
Pump Station Cost Data		14		9,200
Coordination with PDT and non-Federal Sponsor		12		8,000
Prepare M&E Appendix for Feasibility Report		9		5,900
Prepare Text and Plates for Engineering Appendix		9		5,900
District Office Review of Draft Feasibility Rpt		1		700
Resolve Comments		8		5,200
Provide Input for PMP		2		1,300
Subtotal (CEMVK-ED-DC)				50,700

TABLE 2
CORPS AND NON-FEDERAL SPONSOR COSTS FOR
STRUCTURE DESIGN AND CIVIL, MECHANICAL, AND ELECTRICAL WORK ITEMS
PEARL RIVER WATERSHED

Task	Effort		
	Vicksburg District	Non-Federal Sponsor	Total
Evaluation of Alternative Plans			
Site Investigation and Selection	4,400	4,400	8,800
Prepare, Plan, Profile, and Conceptual Detail Drawings		25,600	25,600
Earthwork Computations		15,000	15,000
Preliminary Design of Two Weirs		25,000	25,000
Structural Quantity Computations		15,000	15,000
Evaluation of Six Highway Bridges			
Evaluation of Highway 25/Lakeland Drive Bridge		6,000	6,000
Evaluation of I-55 Bridges		6,000	6,000
Evaluation of Old Brandon Road Bridge		6,000	6,000
Evaluation of Highway 80 Bridge		6,000	6,000
Evaluation of I-20 Bridges		6,000	6,000
Evaluation of Proposed Airport Parking Bridge		6,000	6,000
Evaluation of Two Railroad Bridges		10,000	10,000
Refine Estimate for Selected Plan			
Refine Design		21,400	21,400
Determine Real Estate Requirements		15,000	15,000
Coordination of Engineering Design	9,200	9,200	18,400
Prepare Text and Plates for Engineering Appendix		30,400	30,400
District Office Review of Draft Feasibility Rpt	5,600		5,600
Resolve Comments	3,600	3,600	7,200
Provide Input for PMP	4,200		4,200
Subtotal	27,000	210,600	237,600
Refine Estimate for Selected Plan			
Pump Station Design		14,500	14,500
Pump Station Cost Data		9,200	9,200
Coordinate with Study Team	4,000	4,000	8,000
Prepare M&E Appendix for Feasibility Report		5,900	5,900
Prepare Text and Plates for Engineering Appendix		5,900	5,900
District Office Review of Draft Feasibility Rpt	700		700
Resolve Comments	2,600	2,600	5,200
Provide Input for PMP	1,300	0	1,300
Subtotal	8,600	42,100	50,700

ENGINEERING DIVISION

Design Branch
Levee and Drainage Section

What: Provide preliminary design for channel dredging and clearing for alternative plans that will be identified during the feasibility study. Provide preliminary design of disposal sites for dredge material. Provide preliminary design for levees and enlargement of existing levees. Request needed surveys and mapping. Provide refined design, including real estate take line, for the selected plan. Provide input for the PMP.

Why: To assure sufficient channel and levee design, and to develop sufficient project layout, details, and design for quantities to develop feasibility study level cost estimates.

Who: The non-Federal sponsor or their contractor(s) have primary responsibility for completing this work item. One GS-12 from Design Branch will be the point of contact for the work item, being responsible for coordination activities with the non-Federal sponsor or their representative.

When: Throughout the feasibility study, as required.

How: Development of design using the CADD system and established engineering techniques.

Manpower/Cost:

Vicksburg District		
GS-12 7 man-days @ $715/day	=	$5,000
Non-Federal Sponsor		
LeFleur Lakes Investigations		
37 man-days @ $800/day	=	$29,600
Richland and South Jackson Levee Investigations		
12.5 man-days @ $800/day	=	$10,000
Total	=	$44,600

Duration: 85 workdays and throughout study as required.

ENGINEERING DIVISION

Cost and Engineering Services Branch
Cost Engineering Section

Prepare Cost Estimates for Alternatives/Baseline Estimate/Report Review and Comment Resolution

What: Cost estimates will be prepared for each alternative for plan evaluation. Costs for levee plans previously evaluated will be updated to current conditions. An alternative analysis will be performed to determine the recommended plan and any further analysis needed to continue or complete the project. The non-Federal sponsor will actively participate in the development/review of unit costs needed for the cost estimates.

Why: To develop cost of alternatives for NED evaluation.

Who: One GS-13 Civil Engineer, two GS-12 Civil Engineers, and non-Federal sponsor or their representative.

When: Following development of quantities for alternatives and prior to benefit-cost ratios.

How: Using in-house labor using cost estimating software.

Manpower/Cost:

Vicksburg District

Alternatives

Two GS-12 16.25 days @ $1,600/day	=	$26,000
One GS-13 4 days @ $1,000/day	=	$ 4,000

Baseline Estimate

Two GS-12 7 days @ 1,600/day	=	$11,000
One GS-13 2 days @ 1,000/day	=	$ 2,000

Review Report/Comment Resolution

One GS-12 4 days @ $800/day	=	$ 3,000
One GS-13 4 days @ $1,000/day	=	$ 4,000
Subtotal	=	$50,000
Non-Federal Sponsor		
20 man-days @ $750/man-day	=	$15,000
Total	=	$65,000

Duration: 50 days

ENGINEERING DIVISION

Cost and Engineering Services Branch
Engineering Services Section

Identify and Cost Relocations

What: All relocations for the project must be identified and a cost for each relocation must be developed.

Why: Identification and cost of relocations will be used by Cost Engineering Section in their project cost estimate and included in the Engineering Appendix.

Who: The non-Federal sponsor will be responsible for identifying and costing relocations.

When: Following development of alternatives and prior to development of detailed cost estimate.

How: Field reconnaissance and established cost estimating procedures.

Manpower/Cost:

20 man-days @ $800/man-day = $16,000

Duration: 1 month

ENGINEERING DIVISION

Engineering Data Section
Survey Team

Obtain site surveys

What: Obtain site surveys of the two weir sites in the LeFleur Lakes plan.

Why: Site surveys are needed to accurately develop construction quantities for use in cost estimating procedures.

Who: Surveys and mapping will be obtained by the non-Federal sponsor.

When: At the beginning of the feasibility study after the weir sites have been identified.

How: The non-Federal sponsor or his representative will develop a scope of work for the engineering services needed and negotiate the Scope of Work with the A-E firm.

Manpower/Cost:

Non-Federal Sponsor		
A-E Contract	=	$60,000
Mapping	=	$15,000
Total	=	$75,000

Duration: 70 workdays

Prepare Engineering Appendix

What: Prepare Engineering Appendix from input provided by the various offices within Engineering Division working on the study.

Why: The Engineering Appendix is a requirement in feasibility investigations. The appendix documents engineering studies and assumptions used in the investigation. The appendix is the basis for future engineering and design of the project.

Who: One GS-13 Supervisory Civil Engineer and one GS-12 Civil Engineer.

When: During the third year of the investigation when all analyses have been completed.

How: Using in-house labor.

Manpower/Cost:

GS-13 4 man-days @ $900/day	= $ 3,600
GS-12 27 man-days @ $800/day	= $21,600
Total	= $25,200

Duration: 2 months

CONSTRUCTION DIVISION

Construction Management Section

Prepare Construction Management Cost for Selected Plan

What: Prepare estimate of construction management cost for all construction items of the selected plan.

Why: To ensure the total project cost reflects adequate cost for construction activities.

Who: One GS-12 Civil Engineer.

When: During development of MCACES cost estimate.

How: By coordinating with cost engineer and estimating time and resources associated with supervision and inspection of construction contracts.

Manpower/Cost:

GS-12 10 days @ $600/man-day = $6,000

Duration: 30 days

Construction Division PMP Support

What: Provide input into PMP for Construction Division activities during PED and construction.

Why: To ensure the PMP reflects all costs associated with project implementation.

Who: One GS-12 Civil Engineer.

When: During development of PMP.

How: By estimating time and resources associated with construction management activities for implementation of the selected plan and loading into PROMIS data base.

Manpower/Cost:

GS-12 10 days @ $600/man-day = $6,000

Duration: 45 days

REAL ESTATE DIVISION

Office of the Chief and
Appraisal and Planning Branch
B4N0000, B4N0200

Estimate of Real Estate Costs

What: Prepare estimate of Real Estate costs. Draft narrative description of Real Estate activities and estimated associated costs for specific scope of work section of the PMP.

Why: To provide funding requirements and task descriptions for use in programming funds and defining responsibilities during the project study phase.

Who: One GS-11 Program Analyst and one GS-12 Realty Specialist in the Office of the Chief, RE, one GS-11 Realty Specialist, one GS-12 Realty Specialist, and one GM-13 Supervisory Appraiser in RE-E.

When: During the beginning of the feasibility phase for the project study.

How: The Realty Specialist in Appraisal and Planning Brach will coordinate with Planning, Programs, and Project Management Division to determine the nature and scope of the proposed study. Criteria that will be used as a basis for the estimate will be jointly developed. These criteria will include an estimate of the number of alternatives to be evaluated along with the amount and type of land and number of landowners to be affected by each alternative and possible utility relocations. This information will be coordinated with RE Division budget, scheduling and programming personnel in the Office of the Chief to develop activities, cost and durations for the project. The Team Leader and Branch Chief will coordinate, provide guidance, and review the effort.

Manpower/Cost:

B4N0000	GS-11 1.0 man-days @ 568/man-day	=	$ 568
	GS-12 0.5 man-day @ $736/man-day	=	$ 368
B4N0200	GS-11 1.0 man-days @ $536/man-day	=	$ 568
	GS-12 0.5 man-day @ $680/man-day	=	$ 340
	GM-13 0.5 man-day @ $880/man-day	=	$ 440
	Total	=	$2,252
		Use	$2,300

Duration: 7 workdays

REAL ESTATE DIVISION

Realty Services Branch

Acquisition of Rights-of-Entry

What: Acquisition of rights-of-entry. Request, coordinate, monitor, and review for completeness, the acquisition of permits necessary for soil borings, land surveys, hazardous, toxic and radiological waste and cultural resources surveys by the non-Federal sponsor. If requested, assist the non-Federal sponsor in the acquisition of said rights.

Why: To provide legal right of ingress and egress to properties for the purpose of performing necessary investigations. The results of these investigations will be utilized in the development of alternatives and the selected plan.

Who: One contract Administrative Assistant, one GS-11 Realty Specialist, one GS-12 Realty Specialist, one GM-13 Realty Officer, and the non-Federal sponsor.

When: During the beginning of the feasibility phase of the project study.

How: The areas required will be identified on mapping provided by Engineering or Planning, Programs, and Project Management Division. A Realty Specialist will determine and recommend the necessary rights and term required, and then will officially request and coordinate with the non-Federal sponsor for the acquisition of the permits. If requested, will assist the non-Federal sponsor securing the necessary rights. The Team Leader and Realty Officer will direct, coordinate and review the effort. The contract Administrative Assistant will prepare correspondence.

Manpower/Cost:

Vicksburg District

B4N0100	Cont AA	1.5 man-days @ $440/man-day	=	$ 660
	GS-11	5 man-days @ $616/man-day	=	$ 3,080
	GS-12	2 man-days @ $736/man-day	=	$ 1,472
	GM-13	1.5 man-days @ $880/man-day	=	$ 1,320
	Total		=	$ 6,532
			Use	$ 6,500

Non-Federal Sponsor

12.5 man-days @ $800/man-day	=	$10,000
Total	=	$16,500

Duration: 60 workdays

REAL ESTATE DIVISION

Appraisal and Planning Branch

Determine Lands, Easements, Rights-Of-Way, Relocations, And Disposal Areas (LERRD)

What: Determine Lands, Easements, Rights-Of-Way, Relocations, And Disposal Areas (LERRD) in the project area under the jurisdiction of the Corps Of Engineers and/or other Federal, State, Local Drainage District, Levee Board, Non-Federal Sponsor, etc.

Why: LERRD previously acquired by and/or under the jurisdictional control of the Corps, Non-Federal Sponsor, other Federal, State, local agency may not require acquisition if compatible with required interest necessary to support the project. If determined not to be compatible in use, consideration of any encumbrances will recognized within and will impact land value estimates.

Who: One GS-11 Realty Specialist and one GS-12 Realty Specialist.

When: Prior to preliminary mapping activities and land value estimates for each proposed project alternative.

How: The Realty Specialist will research and analyze Real Estate Division historical documentation, existing published maps, photo's and public records in attempt to identify any potential previously acquired or encumbered LERRD within the project area. Further, will coordinate with the appropriate Project Manager for the acquisition of any supporting documentation to define such LERRD. Any pertinent data will be constructed on preliminary acquisition maps. The Team Leader will provide historical knowledge of existing project, assist in the research, provide guidance and direct the effort.

Manpower/Cost:

B4N0200	GS-11	4 man-days @ $568/man-day	=	$2,272
	GS-12	1.5 man-days @ $736/man-day	=	$1,104
	Total		=	$3,376
			Use	$3,400

Duration: 14 workdays

REAL ESTATE DIVISION

Appraisal and Planning Branch and
Realty Services Branch

Determine Estates to be Acquired

What: Determination of estates to be acquired. Selection of appropriate estates that will provide necessary rights to construct, operate and maintain the proposed project.

Why: Severity of the estates acquired is a determining factor in estimating land costs. It is Corps policy to acquire the minimum estate necessary to construct, operate, and maintain the proposed project.

Who: One GS-11 Realty Specialist and one GS-12 Appraiser in RE-E, one GS-12 Attorney Advisor and one GM-13 Realty Office in RE-S.

When: Prior to the initiation of preparation of preliminary mapping and estimates of land values for alternatives.

How: Planning, Programs, and Project Management Division and/or Engineer Division will provide information as to the proposed work to be accomplished in the various alternatives and the term for which right-of-way will be required. The Realty Specialist in consultation with the Appraiser will select appropriate estates from ER-405-1-12. If a nonstandard estate must be drafted, the Realty Specialist in consultation with the Attorney Advisor and Realty Office will draft the language for such estate.

Manpower/Cost:

B4N0200	GS-11	2 man-days @ $568/man-day	=	$1,136
	GS-12	1 man-day @ $736/man-day	=	$ 736
B4N0100	GS-12	1 man-day @ $696/man-day	=	$ 696
	GM-13	1 man-day @ $880/man-day	=	$ 880
	Total		=	$3,448
			Use	$3,400

Duration: 10 workdays

REAL ESTATE DIVISION

Appraisal and Planning Branch

Prepare Preliminary Acquisition Maps

What: Preparation of preliminary acquisition maps. Perform preliminary Real Estate mapping activities for alternatives.

Why: Ownership, previously acquired/encumbered LERRD and land use data must be compiled on preliminary right-of-way drawings for each proposed alternative on which to base estimates of land value and hired labor costs.

Who: One GS-11 Realty Specialist and one GS-12 Realty Specialist.

When: Prior to and in conjunction with the estimates of land value and hired labor costs.

How: A Realty Specialist will construct previously acquired/encumbered LERRD, determine land use and calculate acreages, overlay ownership information on preliminary design drawings and provide technical support to the Appraiser as required. These activities will not be comprehensive but limited to instances identified by the Appraiser where required information is not readily discernable from source material. The Team Leader will provide guidance and direct the effort.

Manpower/Cost:

B4N0200	GS-11	5 man-days @ $568/man-day	=	$ 2,840
	GS-12	2 man-days @ $736/man-day	=	$ 1,472
	Total		=	$ 4,312
			Use	$ 4,300

Duration: 25 workdays

Prepare Estimates of Land Values

What: Estimate value of lands required for alternatives.

Why: Land values must be included in the cost of each alternative evaluated.

Who: One GS-12 Appraiser and one GM-13 Supervisory Appraiser and non-Federal sponsor.

When: When requested by Planning, Programs, and Project Management Division upon receipt of preliminary design drawings that define right-of-way requirements to be valued.

How: The Appraiser will perform market research, verify comparable sales, and estimate land values and severance damages for proposed alternatives. The Supervisory Appraiser will direct, coordinate and review the effort. Land values developed will be coordinated with the non-Federal sponsor.

Manpower/Cost:

Vicksburg District

B4N0200	GS-12	18 man-days @ $736/man-day	=	$13,248
	GM-13	4 man-days @ $880/man-day	=	$ 3,520
	Total		=	$16,768
			Use	$16,800

Non-Federal Sponsor

	10 man-days @ $800/man-day	=	$ 8,000

Total = $24,800

Duration: 40 workdays

REAL ESTATE DIVISION

Realty Services Branch and
Appraisal and Planning Branch

Relocations Planning Studies

What: Conduct Relocations Planning Studies (Uniform Relocation Assistance, PL 91-646). Prepare reports to identify impacts of the project on potential displaced persons, businesses and farms and provide estimate of cost associated with PL 91-646 requirements for each proposed alternative.

Why: Displacement of individuals and relocation cost are a critical factor in determining the most justified, feasible and economical alternative for the project. PL 91-646 requires that studies be conducted in early planning stages to (1) identify potential problems associated with displaced individuals, families, businesses and farm operation, (2) provide resolution to any such problems to minimum adverse impacts on persons displaced, project cost and execution, and (3) provided estimate cost of relocation assistance payments for each alternative and recommended plan. This document will be used as a basis for addressing PL 91-646 relocation issues in the Real Estate Plan.

Who: One GS-11 Realty Specialist, one GS-12 Realty Specialist and one GM-13 Realty Office in RE-S, one GS-12 Appraiser and one GM-13 Supervisory Appraiser in RE-E.

When: Concurrently with the preparation of land value and hired estimates for project alternatives.

How: A Realty Specialist in consultation with a Appraiser will (1) prepare a inventory of characteristics and needs of individuals, families, businesses and nonprofit organizations, and farms to be relocated, (2) perform a market analysis of the project area to determine if adequate supply of comparable replacement housing and/or locations for businesses and farms will be available to meet the needs of displaced persons in a timely manner, (3) perform analysis to determine if any foreseeable problems will be encountered to impacted individuals, (4) provide proposed solutions for any anticipated relocation problems discovered, and (5) prepare estimate of PL 91-646 cost for each alternative. Data to support these studies will be obtained from Engineering Division, Planning, Programs, and Project Management Division, other local Federal, State, private agencies and field reconnaissance. The Team Leader and Branch Chief will direct, coordinate and review the effort. The Realty Officer and Supervisory Appraiser will review and direct the effort.

Manpower/Cost:

B4N0100	GS-11 22 man-days @ $616/man-day	=	$13,552
	GS-12 5 man-days @ $736/man-day	=	$ 3,680
	GM-13 3.5 man-days @ $880/man-day	=	$ 3,080
B4N0200	GS-12 11 man-days @ $736/man-day	=	$ 8,096
	GM-13 3.5 man-days @ $880/man-day	=	$ 3,080
	Total	=	$31,488
		Use	$31,500

Duration: 60 workdays

REAL ESTATE DIVISION

Appraisal and Planning Branch

Preliminary Acquisition Maps for Selected Plan

What: Preparation of preliminary acquisition maps for the selected plan. Perform preliminary Real Estate mapping activities for selected plan.

Why: Ownership and land use data must be compiled on which to base gross appraisal and estimates of hired labor costs for selected plan.

Who: One GS-11 Realty Specialist and one GS-12 Realty Specialist.

When: Prior to and in conjunction with the gross appraisal, estimate of hired labor costs and use within the Real Estate Plan (REP) for the selected plan.

How: A Realty Specialist will compile information, determine land use and calculate acreages, overlay ownership information on preliminary design drawings and provide technical support to the Appraiser as required. These activities will be directed, coordinated and reviewed by the Team Leader.

Manpower/Cost:

B4N0200	GS-11	4 man-days @ $568/man-day	=	$2,272
	GS-12	.5 man-days @ $736/man-day	=	$ 368
	Total		=	$2,640
			Use	$2,600

Duration: 14 workdays

Gross Appraisal for Selected Plan

What: Preparation of gross appraisal for selected plan.

Why: A gross appraisal for the selected plan is required by ER 405-1-12, Chapter 12 and to provide more detailed analysis of the land values and project impact on the remaining ownerships.

Who: One GS-12 Appraiser and one GM-13 Supervisory Appraiser.

When: When requested by Planning, Programs, and Project Management Division and upon receipt of preliminary design drawings that define right-of-way requirements for the selected plan.

How: The Appraiser will perform market research, verify comparable sales, and estimate land values, severance damages and prepare and submit for approval the gross appraisal for the selected plan. The Supervisory Appraiser will direct, coordinate and review the effort.

Manpower/Cost:

GS-12 11 man-days @ $736/man-day	=	$ 8,096
GM-13 3.5 man-days @ $880/man-day	=	$ 3,080
Total	=	$11,176
	Use	$11,200

Duration: 30 workdays

REAL ESTATE DIVISION

Office and the Chief and
Appraisal and Planning Branch

Estimates of Hired Labor Costs

What: Preparation of estimates of hired labor costs. Estimate hired labor costs associated with the acquisition of lands required for alternatives and selected plan.

Why: Hired labor costs must be included in the cost of each alternative evaluated.

Who: One GS-11 Program Analyst and one GS-12 Realty Specialist in the Office of the Chief, RE, one GS-11 Realty Specialist and one GS-12 Realty Specialist in RE-E.

When: In conjunction with the estimate of land required for alternatives and selected plan.

How: The Realty Specialist in RE-E, in coordination with budget and programming personnel in the Office of the Chief, RE will determine activities and associated hired labor costs in accordance with the chart of accounts based on past experience and historical information. The Team Leader will provide guidance and review the effort.

Manpower/Cost:

B4N0200	GS-11	1 man-day @ $536/man-day	=	$ 536
	GS-12	1 man-day @ $680/man-day	=	$ 680
B4N0200	GS-11	3.5 man-days @ $568/man-day	=	$1,988
	GS-12	0.5 man-day @ $736/man-day	=	$ 368
	Total Cost		=	$3,572
			Use	$3,600

Duration: 10 workdays

REAL ESTATE DIVISION

Realty Services Branch

Attorney's Opinion of Compensability

What: Prepare preliminary Attorney's Opinion of Compensability. Determine owners and existence of compensable interest in utilities requiring relocation due to selected plan.

Why: To ensure costs associated with relocations are appropriate and necessary.

Who: One contract Administrative Assistant, one GS-12 Attorney Advisor, and one GM-13 Realty Officer.

When: After selection of recommended plan upon identification of utilities to be impacted.

How: The utilities requiring alteration or rearrangement will be identified on mapping provided by Engineering Division. An Attorney Advisor will investigate records to determine owners and whether a compensable interest exists. A contract Administrative Assistant will prepare the necessary documents. The Branch Chief will direct, coordinate and review the effort.

Manpower/Cost:

Cont AA 2 man-days @ $440/man-day	=	$ 880
GS-12 22 man-days @ $696/man-day	=	$15,312
GM-13 3.5 man-days @ $880/man-day	=	$ 3,080
Total Cost	=	$19,272
	Use	$19,300

Duration: 50 workdays

Non-Federal Sponsor Capability Assessment

What: Prepare Non-Federal Sponsor (NFS) Capability Assessment. Assess the Sponsor's legal authority and ability to acquire Lands, Easements, Rights-O-Way, Relocations, and Disposal Areas (LERRD).

Why: To ensure the NFS has the legal authority, experience and professional capability to provide all necessary LERRD to support the project under the terms of the Project Cooperation Agreement (PCA).

Who: One contract Administrative Assistant, one GS-11 Realty Specialist, and one GM-13 Realty Officer.

When: Prior to the submission of any draft or final decision documents prepared as the basis for entering into a Project Cooperation Agreement (PCA).

How: Elements of Real Estate will investigate and coordinate with the potential non-Federal sponsor to determine its legal authority to acquire and hold title to real property, exercise eminent domain, perform "quick take" expropriation, etc. An evaluation of the sponsor's in-house staff's familiarity with real estate requirements of Federal projects including PL 91-646, as amended, staffing level, ability to obtain contract support and other factors contributing to the sponsor's overall ability to provide the necessary rights-of-way in a timely fashion will be documented by completion of a checklist in accordance with Real Estate Policy Guidance Letter No. 12, Subject: Capability Assessments of Potential Non-Federal Sponsors of Cost Shared Civil Works Projects, dated 16 May 1996. A contract administrative assistant will prepare the necessary documents. The Branch Chief will direct, coordinate and review the effort.

Manpower/Cost:

Cont AA	2 man-days @ $440/man-day	=	$ 880
GS-11	7 man-days @ $616/man-day	=	$4,312
GM-13	3 man-days @ $880/man-day	=	$2,640
Total Cost		=	$7,832
		Use	$7,800

Duration: 20 workdays

Real Estate Division

Chief, Real Estate, Realty Services Branch, and Appraisal and Planning Branch

Real Estate Plan for Selected Plan

What: Preparation of Real Estate Plan (REP) for Selected Plan.

Why: To describe the minimum real estate requirements for a proposed specifically authorized water resource project, including estates and costs for selected plan.

Who: One GS-11 Realty Specialist, one GS-12 Realty Specialist, and one GM-13 Supervisory Appraiser in RE-E, one GS-12 Realty Specialist and one GM-13 Realty Office in RE-S, and one GS-12 Realty Specialist and one GM-14 Realty Office in the Office of the Chief, RE.

When: After selection of the recommended plan for inclusion in the Feasibility Report.

How: A Realty Specialist in RE-E will prepare a report addressing the real estate requirements associated with the selected plan. This report will include a project map and a discussion of the project location and area data, estate(s) to be acquired, assessment of Federally owned land in the vicinity, applicability of navigational servitude, local sponsor information, land values, PL 91-646 relocations benefits, severance damages, hired labor costs, NEPA requirements, facility relocations, and any other relevant real estate information appropriate for the project. The Team Leader and Branch Chief will direct, coordinate and review the effort. The Realty Specialist and Realty Office in RE-S, Realty Specialist Realty Office in the Office of the Chief, RE will review the REP as part of quality control measures.

Manpower/Cost:

B4N0200	GS-11	14 man-days @ $568/man-day	=	$ 7,952
	GS-12	5 man-days @ $736/man-day	=	$ 3,680
	GM-13	3.5 man-days @ $880/man-day	=	$ 3,080
B4N0000	GM-14	0.5 man-day @ $1,024/man-day	=	$ 512
	GS-12	1 man-day @ $680/man-day	=	$ 680
B4N0100	GS-12	1 man-day @ $736/man-day	=	$ 736
	GM-13	1 man-day @ $880/man-day	=	$ 880
	Total Cost		=	$17,520
			Use	$17,500

Duration: 50 workdays

Real Estate Section of PMP

What: Develop Real Estate Section of PMP

Why: To provide a definition of roles and responsibilities, funding requirements, and scheduling for the project.

Who: One GS-11 Realty Specialist, one GS-12 Realty Specialist, and one GM-13 Supervisory Appraiser in RE-E, one GM-13 Realty Officer in RE-S, and one GS-11 Program Analyst, one GS-12 Realty Specialist, and one GM-14 Realty Officer in the Office of the Chief, RE.

When: Near the end of feasibility phase after sufficient information about the selected plan is available to develop a meaningful PMP.

How: Planning, Programs, and Project Management Division will coordinate the effort and provide guidance on what assumptions to base the plan on in instances where detailed information is unavailable. Appraisal and Planning Branch, in coordination with program and budget personnel in the Office of the Chief, RE, will determine necessary real estate activities, related costs and estimated durations based on previous experience and historical data Realty Services Branch will review the draft real estate section for the PMP and offer input to be used to develop and refine it into final form. Chief, Real Estate Division will review and approve prior to submittal.

Manpower/Cost:

B4N0000	GM-14	0.5 man-day @ $1,024/man-day	=	$ 512
	GS-11	1 man-day @ $536/man-day	=	$ 536
	GS-12	1 man-day @ $680/man-day	=	$ 680
B4N0100	GM-13	1 man-day @ $880/man-day	=	$ 880
B4N0200	GS-11	2 man-days @ $568/man-day	=	$1,136
	GS-12	1 man-day @ $736/man-day	=	$ 736
	GM-13	1 man-day @ $880/man-day	=	$ 880
	Total Cost		=	$5,360
			Use	$5,400

Duration: 15 workdays

Review Feasibility Report

What: Review Feasibility Report.

Why: Review of study by District elements prior to final submission is a quality control measure.

Who: One GS-11 Realty Specialist, one GS-12 Realty Specialist, and one GM-13 Supervisory Appraiser in RE-E, one GS-12 Realty Specialist and one GM-13 Realty Officer in RE-S, one GS-12 Realty Specialist and one GM-14 Realty in the Office of the Chief, RE.

When: After completion of the report, prior to its final submission.

How: Planning, Programs, and Project Management Division will staff completed report for review. Real Estate will review the report for completeness and accuracy focusing on the real estate section. Subsequently, a response will be prepared to address any real estate related comments or questions stemming from the review by other District elements.

Manpower/Cost:

B4N0000	GS-12	0.5 man-day @ $680/man-day	=	$ 340
	GM-14	0.5 man-day @ $1,024/man-day	=	$ 512
B4N0100	GS-12	0.5 man-day @ $736/man-day	=	$ 368
	GM-13	0.5 man-day @ $880/man-day	=	$ 440
B4N0200	GS-11	0.5 man-day @ $568/man-day	=	$ 284
	GS-12	0.5 man-day @ $736/man-day	=	$ 368
	GM-13	0.5 man-day @ $880/man-day	=	$ 440
	Total		=	$2,752
			Use	$2,800

Duration: 10 workdays

REAL ESTATE DIVISION

Realty Services Branch and
Appraisal and Planning Branch

Coordinate with Local Sponsor

What: Coordination with Local Sponsor.

Why: To ensure the non-Federal sponsor is made aware of its responsibilities associated with providing necessary LEERD's, the policies and procedures that must be followed and crediting procedures. The sponsor must have an opportunity to have input into the developments of cost estimates, and acquisition schedules. Additionally, to request, monitor, and report the sponsor's LERRD acquisition progress.

Who: One GS-11 Realty Specialist, one GS-12 Realty Specialist, one GS-12 Appraiser, and a GM-13 Supervisory Appraiser in RE-E, two GS-12 Realty Specialists, one GM-13 Realty Officer in RE-S, and the non-Federal sponsor or their representative.

When: Throughout the process in the development of the plan.

How: Realty Services Branch and Appraisal and Planning Branch will make available information developed regarding estimated costs and durations for sponsor review and comment and provide technical assistance pertaining to mapping and land description requirements as necessary. Further, will provide guidance as to acceptable appraisal standards, techniques and review for credit. Realty Services Branch will advise on matters of title, condemnation, requirements of PL 96-646 and utility relocations.

Manpower/Cost:

Vicksburg District

B4N0100	GS-11	3 man-days @ $616/man-day	=	$ 1,848
	GS-12	3 man-days @ $736/man-day	=	$ 2,208
	GM-13	1 man-day @ $880/man-day	=	$ 880
B4N0200	GS-11	3 man-days @ $568/man-day	=	$ 1,704
	GS-12	3 man-days @ $736/man-day	=	$ 2,208
	GS-12	2 man-days @ $736/man-day	=	$ 1,472
	GM-13	1 man-day @ $880/man-day	=	$ 880
	Total		=	$11,200

Non-Federal Sponsor		
14 man-days @ $800/man-day	=	$11,200
Total	=	$22,400

REAL ESTATE DIVISION

Office of the Chief, Appraisal and Planning Branch, and Realty Services Branch

Supervision, Programming, and Administrative Support

What: Supervision, Programming and Administrative Support.

Why: To supervise activities, program and manage funds, perform related clerical duties and automated system reporting requirement functions.

Who: One GS-11 Program Analyst, one GS-12 Realty Specialist and one GM-14 Realty Officer, in the Office of the Chief, RE., one contract Administrative Assistant and one GM-13 Realty Specialist in RE-S, one GS-06 Realty Assistant, one contract Administrative Assistant, one GS-12 Realty Specialist, and one GM-13 Supervisory Appraiser in RE-E.

When: Throughout the process in the development of the plan.

How: The Chief, Appraisal and Planning Branch with support provided by the Planning and Automation Team Leader will oversee and supervise activities within his area of responsibility. A Program Analyst and Realty Specialist in the Office of the Chief, RE. will program, manage, and schedule Real Estate activities and project funding. A Realty specialist will maintain project data required in various automated management systems and a Realty Assistant will provide administrative assistance and official division files. The Chief, Appraisal Branch will oversee and supervise activities within his area of responsibility. A contract Administrative Assistant will provide administrative support and maintain proper files. The Chief, Realty Services will oversee and supervise activities within his area of responsibility. A contract Administrative Assistant will provide administrative support and maintain proper files. The Chief, Real Estate Division will be kept apprised of progress and guide the direction of the effort.

Manpower/Cost:

B4N0000	GS-11	2 man-days @ $536/man-day	=	$ 1,072
	GS-12	1 man-day @ $680/man-day	=	$ 680
	GM-14	1 man-day @ $1,024/man-day	=	$ 1,024
B4N0100	Cont AA	5 man-days @ $440/man-day	=	$ 2,200
	GS-12	2 man-days @ $736/man-day	=	$ 1,472
	GM-13	1 man-day @ $880/man-day	=	$ 880
B4N0200	GS-07	4 man-days @ $372/man-day	=	$ 1,488
	Cont AA	4 man-days @ $440/man-day	=	$ 1,760
	GS-12	1.5 man-days @ $736/man-day	=	$ 1,104
	GM-13	2 man-days @ $880/man-day	=	$ 1,760
	Total		=	$13,440
			Use	$13,300

Duration: Study Duration.

OPERATIONS DIVISION

Regulatory Branch
Enforcement Section

Wetland Determination

What: Conducting field investigations as necessary to identify and delineate waters of the United States; i.e., rivers, lakes, streams, and wetlands, in the project area; coordination of the jurisdictional determination with other Federal agencies as necessary; and gathering of sufficient data to prepare reports documenting the jurisdictional determination and provide information necessary to initiate a Section 404 review.

Why: To identify wetlands impacted by project.

Who: One GM-13, one GM-12, one GS-12, and one GS-11.

When: Following completion of GIS data base.

How: By utilizing of GIS, topographical maps, aerial photographs, and field inspection.

Manpower/Cost:

GM-13	40 hours x $70.00	= $ 2,800
GM-12	131 hours x $52.00	= $ 6,812
GS-12	100 hours x $52.00	= $ 4,160
GS-11	100 hours x $40.00	= $ 5,200
20 days per diem x $100.00		= $ 4,000
20 days vehicle usage		= $ 1,000
Miscellaneous (maps, photographs, admin, etc.)		= $ 1,028
Total		= $25,000

Duration: 30 days

PEARL RIVER WATERSHED, MISSISSIPPI
PROJECT MANAGEMENT PLAN

APPENDIX B
COST ESTIMATE

PEARL RIVER WATERSHED

SUMMARY OF COST BY ACTIVITY

Office	Activity	Vicksburg District	In-Kind Services	Other Expenses	Contract Costs	Total Cost
Planning, Programs, and Project Management Division (PPPMD)						
Planning and Project Management Branch	Public Involvement	16,900	120,000	4,500		141,400
	Plan Formulation	8,500	8,500	700		17,700
	Project Management	44,000	48,000	3,300		95,300
	Budget Preparation	15,100	0			15,100
	Program Execution	18,100	0			18,100
	NEPA Scoping Meeting	4,100	8,000			12,100
	Feasibility Scoping Meetings	4,200	0			4,200
	Alternative Formulation Briefing	5,600	0			5,600
	Preparation of Main Report	13,500	0			13,500
	Preliminary Report Preparation	7,600	0			7,600
	Feasibility Review Conference	4,600	3,800			8,400
	Draft Report Preparation	10,900	5,000			15,900
	Draft Report Review	5,600	16,000			21,600
	Outside Source Independent Technical Review a/	25,000	25,000			50,000
	Draft Report Mailing	7,000	0			7,000
	Public Meetings	6,900	12,000			18,900
	Responding to Comments	7,400	7,400			14,800
	Final Report Preparation	6,300	5,000			11,300
	Prepare Draft PMP	10,800	0			10,800
	Finalize PMP	5,900	0			5,900
	PED PCA	3,200	0			3,200
	Budget Support and Execution	4,000				4,000
	Executive Committee Management		12,000			12,000
	Supervision and Review	6,800	0			6,800
	Subtotal	242,000	270,700	8,500	0	521,200
Reports and Communications Center	Report Typing	6,000				6,000
	Clerical Support	3,300				3,300
	Public Meetings	5,000				5,000
	Subtotal	14,300		0	0	14,300

SUMMARY OF COST BY ACTIVITY (Cont)

Office	Activity	Vicksburg District	In-Kind Services	Other Expenses	Contract Costs	Total Cost
PPPMD (Cont) Environmental and Economic Analysis Branch						
Economic Analysis Team	Supervision and Review	11,200	0			11,200
	Scope of Study and Data Gathering	17,400	0	1,500		18,900
	Technical Analysis-Base Condition	14,300	0			14,300
	Technical Analysis-With-Project Condition	8,700	0			8,700
	Conduct Risk and Uncertainty Analysis	1,600	0			1,600
	Conduct Net Benefit and Cost Analysis	1,600	0			1,600
	Regional Economic Analysis	0	30,000			30,000
	Report Preparation	6,700	0			6,700
	Study Coordination and Review	4,300	0			4,300
	Financial Analysis	2,100	0			2,100
	Subtotal	67,900	30,000	1,500	0	99,400
Environmental Analysis Team	Interagency Coordination Scoping Process	10,000	0			10,000
	Develop Environmental Setting	4,000	12,000			16,000
	Biological Assessment of Threatened and Endangered Species	1,600	15,000			16,600
	Environmental Hydraulic & Hydrologic Support	2,400	15,200			17,600
	Public Involvement	4,000	4,000			8,000
	Inventory and Data Collection	2,400	2,400			4,800
	Evaluate Alternatives	2,400	22,400			24,800
	Habitat Evaluation	21,700	194,800			216,500
	FWCA b/	60,000	60,000			120,000
	Prepare Draft EIS and Appendixes	4,000	30,000			34,000
	Revise Draft EIS and Appendixes	1,600	7,600			9,200
	Prepare Final EIS and Appendix	1,600	7,600			9,200
	Prepare Draft Record of Decision	5,000	0			5,000
	Cultural Resources	41,600	175,500			217,100
	District Office Review	5,000	0			5,000
	Study Coordination	6,000	0			6,000
	Subtotal	178,300	546,500	0	0	719,800

SUMMARY OF COST BY ACTIVITY (Cont)

Office	Activity	Vicksburg District	In-Kind Services	Other Expenses	Contract Costs	Total Cost
Engineering Division						
Hydraulics Branch						
Hydrology Section	Evaluate Existing Hydraulic & Hydrologic Conditions	26,000	0			26,000
	Evaluate Flood Control Alternatives	62,300	0			62,300
	Sediment Assessment	6,900	0			6,900
	Environmental Support	13,400	0			13,400
	Project Management Support	22,000	0			22,000
	District Office Review	8,000	0			8,000
	Study Documentation	15,500	0			15,500
	Subtotal	154,100	0	0	0	154,100
Water Quality Section	Offsite Wetland Delineation	17,100	0			17,100
	Stage-Area Curve Development	24,300	0			24,300
	Perform FEAT Modeling Studies	18,500	0			18,500
	Collect Water and Sediment Samples	5,000	0	18,000		23,000
	Prepare Water Quality Appendix	26,000	0			26,000
	HTRW Assessment	0	25,000			25,000
	District Office Review	3,600	0			3,600
	Subtotal	94,500	25,000	18,000	0	137,500
Geotechnical Branch						
Analytical Section	Supervision, Review and Clerical	7,700	0			7,700
	District Office Review	2,900	0			2,900
	PMP Support	3,100	0			3,100
	Analysis and Design	93,900	0	2,000		95,900
	Prepare Geotechnical Input to Engineering Appendix	9,900	0			9,900
	Subtotal	117,500	0	2,000	0	119,500
Geotechnical Data Section	Subsurface Investigation	79,400		0		79,400
	Lab Testing	9,400				9,400
	Subtotal	88,800	0	0	0	88,800

SUMMARY OF COST BY ACTIVITY (Cont)

Office	Activity	Vicksburg District	In-Kind Services	Other Expenses	Contract Costs	Total Cost
Engineering Division (Cont)						
Technical Investigation Section	PMP Support	1,700	0			1,700
	District Office Review	1,400	0			1,400
	Ground-Water Impact Assessment	5,600	0	500		6,100
	Site Geology Report	4,200	0			4,200
	Materials Engineering	1,500	0			1,500
	Ross Barnett Reservoir Dam Assessment	0	15,000			15,000
	Supervision and Review	1,700	0			1,700
	Subtotal	16,100	15,000	500	0	31,600
Design Branch						
Structures Section	Evaluation of Alternative Plans					
	Site Investigation and Selection	4,400	4,400			8,800
	Prepare Plan, Profile, and Conceptional Detail Drawings	0	25,600			25,600
	Earthwork Computations	0	15,000			15,000
	Preliminary Design of 2 Weirs	0	25,000			25,000
	Structural Quantity Computations	0	15,000			15,000
	Evaluation of Six Highway Bridges	0	36,000			36,000
	Evaluation of Two Railroad Bridges	0	10,000			10,000
	Refine Estimate for Selected Plan					
	Refine Design	0	21,400			21,400
	Determine Real Estate Requirements	0	15,000			15,000
	Coordination of Engineering Design	9,200	9,200			18,400
	Prepare Text and Plates for Engineering Appendix	0	30,400			30,400
	District Office Review of Draft Feasibility Report	5,600	0			5,600
	Resolve Comments	3,600	3,600			7,200
	Provide Input for PMP	4,200	0			4,200
	Subtotal	27,000	210,600	0	0	237,600

SUMMARY OF COST BY ACTIVITY (Cont)

Office	Activity	Vicksburg District	In-Kind Services	Other Expenses	Contract Costs	Total Cost
Engineering Division (Cont)						
Design Branch (Cont)						
Civil, Mechanical, and Electrical Section	Refine Estimate for Selected Plan					
	Pump Station Evaluation		14,500			14,500
	Pump Station Cost Data		9,200			9,200
	Coordinate with Study Team and Review	4,000	4,000			8,000
	Prepare M&E Appendix for Feasibility Report		5,900			5,900
	Prepare Text and Plates for Engineering Appendix		5,900			5,900
	District Office Review of Draft Feasibility Report	700				700
	Resolve Comments	2,600	2,600			5,200
	Provide Input for PMP	1,300	0			1,300
	Subtotal	8,600	42,100	0	0	50,700
Levee and Drainage Section	Evaluation of Alternative Plans					
	Preliminary Design for Channel Dredging and Clearing	5,000	29,600			34,600
	Preliminary Design of Disposal Sites					0
	Design New Levees and Enlargement of Existing Levees		10,000			10,000
	Surveys and Mapping					0
	Refined Design for Selected Plan					0
	Subtotal	5,000	39,600	0	0	44,600

SUMMARY OF COST BY ACTIVITY (Cont)

Office	Activity	Vicksburg District	In-Kind Services	Other Expenses	Contract Costs	Total Cost
Engineering Division (Cont) Cost and Engineering Services Branch						
Cost Engineering Section	Coordination/Development of Unit Construction Costs		15,000			15,000
	Prepare Cost Estimates	50,000				50,000
	Subtotal	50,000	15,000	0	0	65,000
Engineering Services Section	Surveys and Mapping	0	75,000		0	75,000
	Prepare Engineering Appendix	25,200				25,200
	Identifying and Cost Relocations	0	16,000	0		16,000
	Subtotal	25,200	91,000	0	0	116,200
Construction Division Construction Management Section	PMP Support					
	Prepare Construction Management Costs	6,000				6,000
	Prepare Input to the PMP	6,000				6,000
		12,000	0	0	0	12,000
Vicksburg Consolidated Contracting Office						
Contract Branch	Contract Administration	0				0
	PMP Support					0
	Subtotal	0	0	0	0	0

SUMMARY OF COST BY ACTIVITY (Cont)

Office	Activity	Vicksburg District	In-Kind Services	Other Expenses	Contract Costs	Total Cost
Real Estate Division	Preparation of Estimates of Real Estate Costs	2,300				2,300
	Acquisition of Rights-of-Entry	6,500	10,000			16,500
	Determine Previously Acquired/Encumbered LERRD	3,400				3,400
	Determination of Estates to be Acquired	3,400				3,400
	Preliminary Acquisition Maps for Alternatives	4,300				4,300
	Estimates of Land Values for Alternatives	16,800	8,000			24,800
	Public Law 91-646 Relocation Studies/Cost Estimates	31,500				31,500
	Preliminary Acquisition Maps for Selected Plan	2,600				2,600
	Gross Appraisal for Selected Plan	11,200				11,200
	Estimates of Hired Labor Costs	3,600				3,600
	Attorney's Opinion of Compensability	19,300				19,300
	Sponsor Capability Assessment	7,800				7,800
	Real Estate Plan for Selected Plan	17,500				17,500
	Real Estate Section PMP	5,400				5,400
	District Office Review	2,800				2,800
	Coordination between Local Sponsor/Vicksburg District	11,200	11,200			22,400
	Supervision, Programming, and Administrative Support	13,300				13,300
	Subtotal	162,900	29,200	0	0	192,100
Operations Division Regulatory Branch	Wetland Determination	25,000				25,000
	Subtotal	25,000				25,000

SUMMARY OF COST BY ACTIVITY (Cont)

Office	Activity	Vicksburg District	In-Kind Services	Other Expenses	Contract Costs	Total Cost
	Total	1,284,200	1,314,700 c/	30,500		2,629,400
	Contingencies (15%)	108,100	110,300	2,200		220,600
	GRAND TOTAL	1,392,300	1,425,000	32,700	0	2,850,000

a/ Funds transferred to another Corps District and/or agency to perform technical review.

b/ Funds transferred to the U.S. Fish and Wildlife Service (FWS) for preparation of Fish and Wildlife Coordination Act Report and coordination by FWS personnel in impact identification and analysis, fisheries evaluation, HEP, waterfowl analysis, and mitigation planning.

c/ Includes funds that will be transferred to another Corps office and/or agency for technical review and to FWS for required study activities.

PEARL RIVER WATERSHED
SUMMARY OF COST BY OFFICE

Office	Amount
Planning, Programs, and Project Management Division	
Planning and Project Management Branch	250,500 a/
Environmental and Economic Analysis Branch	
Economic Analysis Team	69,400
Environmental Analysis Team	173,300 b/
Reports and Communications Center	14,300
Subtotal	507,500
Engineering Division	
Hydraulics Branch	
Hydrology Section	154,100
Water Quality Section	112,500
Geotechnical Branch	0
Analytical Section	119,500
Data Section	88,800
Technical Investigation Section	16,600
Design Branch	
Structures Section	27,000
Levee and Drainage Section	5,000
Civil, Mechanical, and Electrical Section	8,600
Cost and Engineering Services Branch	
Engineering Services Section	25,200
Cost Engineering Section	50,000
Subtotal	607,300
Construction Division	12,000
Subtotal	12,000
Vicksburg Consolidated Contracting Office	0
Subtotal	0
Real Estate Division	162,900
Subtotal	162,900
Operations Division	25,000
Subtotal	25,000
TOTAL	1,314,700
Local Sponsor	
In-Kind Services	1,229,700
Cash	85,000
Subtotal	1,314,700
Feasibility Study Subtotal	2,629,400
Contingencies	220,600
GRAND TOTAL	2,850,000

a/ Includes $25,000 for outside source Independent Technical Review.
b/ Includes $60,000 for transfer to FWS.

PEARL RIVER WATERSHED, MISSISSIPPI
FEASIBILITY STUDY BUDGET a/

Feasibilty Study Cost	2,629,400
Contingencies	220,600
Total	2,850,000

Expenditure ($)	Fiscal Year				
	2003	2004	2005	2006	Total
Federal	113,700	817,600	468,400	25,300	1,425,000
Non-Federal Cash		34,500	63,250		97,750
Non-Federal In-Kind	110,250	916,100	279,300	21,600	1,327,250
Total	223,950	1,768,200	810,950	46,900	2,850,000

a/ Cost shared 50 percent Federal/50 percent non-Federal.

PEARL RIVER WATERSHED, MISSISSIPPI
PROJECT MANAGEMENT PLAN

APPENDIX C
STUDY SCHEDULE

PEARL RIVER WATERSHED

ID	Task Name	Duration	Start	Finish	Predecessors
1	Restart Feasibility Study	1 day	Wed 10/1/03	Wed 10/1/03	
2	NEPA Scoping Meetings	10 days	Thu 2/5/04	Wed 2/18/04	1FS+90 days
3	Obtain Rights-of-Entry at Weir Site	30 days	Wed 10/1/03	Tue 11/11/03	1SS
4	Surveying and Mapping Weir Site	60 days	Wed 11/12/03	Tue 2/3/04	3
5	Hydraulic Field Investigation	22 days	Wed 10/1/03	Thu 10/30/03	1SS
6	Update Hydrology	22 days	Fri 10/31/03	Mon 12/1/03	5
7	Revise Hydraulic Models	33 days	Tue 12/2/03	Thu 1/15/04	6
8	Comp Eval Existing Hydraulic Conditions	22 days	Tue 12/2/03	Wed 12/31/03	6
9	Update Hydraulic Analysis Levee Plan	33 days	Fri 1/16/04	Tue 3/2/04	7,8
10	Hydraulic Analysis LeFleur Lakes	33 days	Fri 1/16/04	Tue 3/2/04	7
11	Hydraulic Design LeFleur Lakes	33 days	Wed 3/3/04	Fri 4/16/04	10
12	Sedimentation Assessment	22 days	Mon 4/19/04	Tue 5/18/04	11
13	Hydraulic Environmental Support	44 days	Wed 3/3/04	Mon 5/3/04	9,10
14	Prepare Hydraulic Input for Report	44 days	Wed 5/19/04	Mon 7/19/04	9,12,10
15	Offsite Wetland Delineation	90 days	Thu 11/13/03	Wed 3/17/04	1FS+30 days
16	Develop Stage Area Curves	180 days	Thu 11/13/03	Wed 7/21/04	1FS+30 days
17	FEAT Modeling	90 days	Thu 11/13/03	Wed 3/17/04	1FS+30 days
18	Water and Sediment Sampling	60 days	Thu 12/25/03	Wed 3/17/04	1FS+60 days
19	Prepare Water Quality Appendix	90 days	Thu 7/22/04	Wed 11/24/04	15,16,17,18
20	Geotechnical Analysis and Design	60 days	Wed 7/21/04	Tue 10/12/04	23,27
21	Geotech Subsurface Investigation	60 days	Wed 3/17/04	Tue 6/8/04	4FS+30 days
22	Ross Barnett Dam Assessment	15 days	Wed 7/21/04	Tue 8/10/04	20SS,11
23	Geotech Laboratory Testing	30 days	Wed 6/9/04	Tue 7/20/04	21
24	Ground-Water Impact Assessment	30 days	Wed 7/21/04	Tue 8/31/04	27,23
25	Prepare Regional and Site Geology	8 days	Wed 6/9/04	Fri 6/18/04	21
26	Geotech Portion of Eng Appendix	15 days	Wed 10/13/04	Tue 11/2/04	20,21,22,23,24,25,28
27	Preliminary Design-Two Weirs	20 days	Mon 4/19/04	Fri 5/14/04	11
28	Geotech Materials Engineering	10 days	Mon 5/17/04	Fri 5/28/04	27
29	Earthwork Computation	10 days	Mon 5/17/04	Fri 5/28/04	27
30	Perform Structural Quantity Computation	15 days	Mon 5/17/04	Fri 6/4/04	27
31	Evaluation of Highway 25 Bridge	10 days	Mon 4/19/04	Fri 4/30/04	11,27SS
32	Evaluation of Railroad Bridge	10 days	Mon 4/19/04	Fri 4/30/04	11,27SS
33	Determine Weir Real Estate Requirements	12 days	Mon 7/12/04	Tue 7/27/04	34,27

PEARL RIVER WATERSHED

ID	Task Name	Duration	Start	Finish	Predecessors
34	Preliminary Design Disposal Sites	30 days	Mon 5/31/04	Fri 7/9/04	29,37
35	Prep Plan, Profile & Conceptual Drawings	30 days	Mon 7/12/04	Fri 8/20/04	27,34
36	Evaluate Existing Pump Stations	30 days	Mon 5/17/04	Fri 6/25/04	11,27
37	Channel Design	30 days	Mon 4/19/04	Fri 5/28/04	11,27SS
38	Det Lake & Disposal Area RE Requirements	12 days	Mon 7/12/04	Tue 7/27/04	34,37
39	HTRW Assessment	10 days	Wed 7/28/04	Tue 8/10/04	38
40	Identify and Cost Relocations	20 days	Wed 7/28/04	Tue 8/24/04	38,33
41	Feasibility Scoping Meeting	2 days	Thu 6/24/04	Fri 6/25/04	2FS+90 days
42	Prepare Engineering Appendix	30 days	Wed 11/3/04	Tue 12/14/04	14,26,35,31,32,27,39,38
43	Economic Data Gathering	20 days	Thu 11/13/03	Wed 12/10/03	1FS+30 days
44	Develop Economic Base Conditions	40 days	Thu 12/11/03	Wed 2/4/04	43,6
45	Develop With-Project Conditions	30 days	Wed 3/3/04	Tue 4/13/04	9,10,44
46	Economic Risk & Uncertainty Analysis	5 days	Wed 4/14/04	Tue 4/20/04	45
47	Conduct NED Analysis	5 days	Tue 1/11/05	Mon 1/17/05	45,67
48	Prepare Economic Appendix	30 days	Tue 2/1/05	Mon 3/14/05	46,47,52,53
49	Alternative Formulation Briefing	10 days	Tue 1/18/05	Mon 1/31/05	41,47
50	Preparation of Project Management Plan	60 days	Tue 1/18/05	Mon 4/11/05	47
51	Prep Preconstruct Eng & Design Agreement	30 days	Tue 1/18/05	Mon 2/28/05	50SS
52	Conduct Financial Analysis	10 days	Tue 1/18/05	Mon 1/31/05	47
53	Regional Economic Analysis	35 days	Wed 4/14/04	Tue 6/1/04	45
54	Initiate Preparation of EIS	60 days	Thu 11/13/03	Wed 2/4/04	1FS+30 days
55	Develop Environmental Setting	60 days	Thu 2/5/04	Wed 4/28/04	54
56	Environmental Inventory and Data Collection	30 days	Thu 4/29/04	Wed 6/9/04	55
57	Biological Assessment Endangered Species	30 days	Thu 9/16/04	Wed 10/27/04	56,60SS+90 days
58	Environmental Evaluation Alternatives	60 days	Thu 6/10/04	Wed 9/1/04	56,13SS
59	Perform HEP & Develop Mitigation Plan	131 days	Thu 9/2/04	Thu 3/3/05	27,34,37,58
60	F&WL Coordination Act Report	210 days	Thu 5/13/04	Wed 3/2/05	2FS+60 days
61	Cultural Resource Analysis	100 days	Thu 4/1/04	Wed 8/18/04	2FS+30 days
62	Prepare Draft EIS	60 days	Fri 3/4/05	Thu 5/26/05	59,47,18,61,60,57
63	Identify Previously Acquired LERRD	14 days	Wed 7/28/04	Mon 8/16/04	38,33
64	Determine Estates to be Acquired	10 days	Tue 8/17/04	Mon 8/30/04	63
65	Prepare Preliminary Acquisition Maps	25 days	Tue 8/31/04	Mon 10/4/04	64
66	Prepare Estimate of Land Values	40 days	Tue 10/5/04	Mon 11/29/04	65

PEARL RIVER WATERSHED

ID	Task Name	Duration	Start	Finish	Predecessors
67	Prepare Cost Estimates	30 days	Tue 11/30/04	Mon 1/10/05	29,30,66,40,37
68	Prelim Acquisition Maps for Selected Plan	14 days	Tue 1/18/05	Fri 2/4/05	47
69	Gross Appraisal for Selected Plan	10 days	Tue 1/18/05	Mon 1/31/05	68SS
70	Attorneys Opinion of Compensibility	50 days	Tue 1/18/05	Mon 3/28/05	68SS
71	Non-Federal Sponsor Capability Assess	20 days	Tue 1/18/05	Mon 2/14/05	68SS
72	Prepare RE Plan for Selected Plan	30 days	Tue 3/29/05	Mon 5/9/05	69,68,70,71
73	Preliminary Draft Report	32 days	Fri 5/27/05	Mon 7/11/05	42,67,19,35,47,72,60,62,50,51,48
74	Independent Technical Review	32 days	Tue 7/12/05	Wed 8/24/05	73
75	Feasibility Review Conference	10 days	Thu 8/25/05	Wed 9/7/05	74
76	Prepare Draft RPT for Public Review	37 days	Thu 9/8/05	Fri 10/28/05	75,74
77	Public Meeting	10 days	Mon 12/12/05	Fri 12/23/05	76FS+30 days
78	Public Comment Period	45 days	Mon 10/31/05	Fri 12/30/05	76
79	Prepare Final EIS	25 days	Mon 1/2/06	Fri 2/3/06	62,78,77
80	Prepare Draft Record of Decision	15 days	Mon 1/2/06	Fri 1/20/06	62,78,77
81	Final Report Preparation	30 days	Mon 2/6/06	Fri 3/17/06	77,78,79,80
82	Final RPT Submitted HQUSACE	10 days	Mon 3/20/06	Fri 3/31/06	81
83	Plan Formulation	300 days	Thu 10/2/03	Wed 11/24/04	1
84	Public Involvement	651 days	Thu 10/2/03	Thu 3/30/06	1
85	Project Management	651 days	Thu 10/2/03	Thu 3/30/06	1
86	Budget Preparation	651 days	Thu 10/2/03	Thu 3/30/06	1
87	Program Execution	651 days	Thu 10/2/03	Thu 3/30/06	1

PEARL RIVER WATERSHED, MISSISSIPPI
PROJECT MANAGEMENT PLAN

APPENDIX D
PROJECT MANAGERS COMMUNICATIONS CHECKLIST

PROJECT MANAGERS COMMUNICATION CHECKLIST

Item	Status
Review Communications Guide for Project Managers	Complete Feb 03
Execute Signing Ceremony Checklist, if applicable	Remaining
Provide completed Announcement Template to the PDT representative	Remaining
Verify media training for key PDT members	Ongoing
Identify alternative media spokesperson	Remaining
Place basic project website on District Projects Page	Scheduled early FY 04
Evaluate need for project mailbox in Outlook in compliance with Public Affairs	Remaining
Develop E-Mail address list and collection system	Remaining
Establish customer/stakeholder mailing list	Partially complete
Develop basic project brochure for Word with web address	Remaining
Evaluate need for advanced communications products:	Remaining
Project newsletter	
Table top exhibit	
Video	
Develop basic communications plan in compliance with Public Affairs PDT representative	Remaining
Develop basic media plan for signing ceremony in compliance with Public Affairs	Remaining
Develop basic media plan for public meetings in compliance with Public Affairs	Remaining
Participate in public stakeholder updates every 6 months	Ongoing
Develop media plan for study findings announcement in compliance with Public Affairs	Remaining
Execute groundbreaking activities in compliance with Public Affairs	Future
Execute media tour or project update every 6 months	Future
Execute dedication activities in compliance with Public Affairs	Future
Develop basic mitigation media plan in compliance with Public Affairs	Future
Provide annual update to mitigation status annually	Future
Execute media plan for first operation	Future
Execute media plan for first decade of operation	Future
Execute media plan for other key milestones or historical events	Future

PEARL RIVER WATERSHED, MISSISSIPPI
PROJECT MANAGEMENT PLAN

APPENDIX E
CUSTOMER REQUIREMENTS PLAN

CUSTOMER REQUIREMENTS PLAN

Project: Pearl River Watershed, Mississippi

Project Manager: Gary Walker

Customer: Rankin-Hinds Pearl River Flood and Drainage Control District

Contact Person:

Billy Orr
Chairman
Rankin-Hinds Pearl River Flood
and Drainage Control District
P.O. Box 320069
Flowood, MS 39239-0069
(601) 668-2733

Description of Product/Service Being Provided: Feasibility study of flooding problems in the Jackson, MS, metropolitan area.

CEMVK Contact: Gary Walker, CEMVK-PP-D, (601) 631-5469

General Requirements: Complete feasibility studies.

Current Problem Areas/Issues:

Key Focus Areas:

- **Responsiveness** - Project Manager meets with the sponsors at their regular meetings.
- **Quality/Innovation** - Unique alternatives are being proposed to address flooding problems in the study area.
- **Cycle Time/Efficiency** -
- **Cost** - $2,845,400
- **Safety** - Study activities, especially field investigations, will be conducted according to established safety procedures.
- **Other** - N/A.

What is the ranked order of these elements?

Cost, Quality innovation, Responsiveness, Cycle time/efficiency, Safety

What are their projected future requirements?

Developing comprehensive flood control plan to meet the area's flood control and economic development needs.

Feedback Methodology and Cycle:

Quarterly meetings with sponsors. Day-to-day telephone contact with study participants and sponsors.

PEARL RIVER WATERSHED, MISSISSIPPI
PROJECT MANAGEMENT PLAN

APPENDIX F
ESCROW AGREEMENT

ESCROW AGREEMENT

This Agreement, made and entered into this _____ day of _____, 2003, by and between the Rankin-Hinds Pearl River Flood and Drainage Control District (hereinafter referred to as the "Non-Federal Sponsor:), the Department of the Army (hereinafter referred to as the "Government"), and **[FULL NAME OF THE INSTITUTION]** (hereinafter referred to as the "Bank"),

WITNESSETH THAT:

WHEREAS, on **[EFFECTIVE DATE OF THE AGREEMENT DESCRIBED BELOW]**, the Non-Federal Sponsor and the Government entered into a Feasibility Cost-Sharing Agreement for the feasibility study of the Pearl River Watershed, Mississippi; and,

WHEREAS, pursuant to the Feasibility Cost-Sharing Agreement, the Non-Federal Sponsor is required to contribute, over the period of the feasibility study of the Project, a cash contribution calculated in accordance with said Agreement; and,

WHEREAS, the Non-Federal Sponsor and the Government have agreed that the required contribution may be deposited into an escrow account and held therein until the Government withdraws the funds in accordance with the Feasibility Cost-Sharing Agreement, and,

WHEREAS, the Bank has agreed to serve as depositary for the escrow account and to accept appointment as escrow agent.

NOW, THEREFORE, the parties agree as follows:

1. The Bank is hereby appointed as the escrow agent for the Non-Federal Sponsor and is designated the depositary for the monies delivered by the Sponsor pursuant to the aforementioned Feasibility Cost-Sharing Agreement. The Bank shall establish the "_____ Project Study Fund" (hereinafter referred to as the "Escrow Account"), into which shall be deposited the funds delivered by the Non-Federal Sponsor.

2. In accordance with the method of payment provisions of the Feasibility Cost-Sharing Agreement, the Non-Federal Sponsor shall absolutely and irrevocably deliver to the Bank the funds required to be provided to the Government during the study period.

3. The funds held in the Escrow Account shall earn interest at a rate as the Bank and the Non-Federal Sponsor may mutually agree. To the extent the Non-Federal Sponsor authorizes the Bank to invest the funds in any instrument other than an interest-bearing account, savings certificate, or certificate of deposit of the Bank itself, such investment shall be only in direct

obligations of the Government of the United States of America, in obligations of agencies or insurers that are guaranteed by the Government of the United States of America, or in a money market mutual fund consisting solely of such obligations. Any instrument must be subject to redemption on or prior to the dates the funds will be needed by the Government. Interest on the funds deposited shall accrue and belong to the Non-Federal Sponsor, and shall be payable to the Non-Federal Sponsor as the Bank and the Non-Federal Sponsor may agree.

4. The Government, acting pursuant to the terms of the Project Cooperation Agreement, shall have the sole and unrestricted right to draw upon all or any part of the principal funds deposited in the Escrow Account. A written demand for withdrawal shall be made to the Bank by the District Engineer, USAED, Vicksburg, or his designee, with a copy of said demand provided to the Non-Federal Sponsor. Within 10 days of receipt of the demand, the Bank shall pay to the Government the amount requested to the extent such amount does not exceed the balance available in the Escrow Account. All payments shall be in the form of bank drafts payable to the "FAO, USAED, Vicksburg" and shall be mailed or otherwise delivered to the Government as specified below in paragraph 9.

5. Upon receipt of signed certification by the Government that no further demand for payment of money will be made, the Bank shall complete a final accounting of other obligations required under this Agreement, and pay over any remaining balance to the Sponsor.

6. The fee to be paid to the Bank for the services provided hereunder shall be as the Bank and the Non-Federal Sponsor may mutually agree. Any fee paid to the Bank shall be the sole responsibility of the Non-Federal Sponsor. The Bank shall have no right to deduct monies from the principal escrow sum to pay for its services. In the event the Non-Federal Sponsor fails to make payment to the Bank for its services, all claims for such payment shall be directly against the Non-Federal Sponsor. The Government shall not be responsible for any costs attributable to the establishment, maintenance, administration, or any other aspect of the Escrow Account.

7. Account statements shall be rendered by the Bank to the Non-Federal Sponsor and the Government once monthly, and shall show deposits, disbursements, and balances, and the dates thereof. Upon receipt by the Bank of the certification specified in paragraph 5 above, the Bank shall prepare a final accounting showing all transactions relating to the Escrow Account and provide said accounting to the Non-Federal Sponsor and the Government at the addresses shown in paragraph 9.

8. It is understood and agreed that the bank shall not be liable or responsible to ascertain the terms or conditions of any provision of the aforementioned Feasibility Cost-Sharing Agreement between the Non-Federal Sponsor and the Government. It is further understood and agreed that if any controversy arises between the Government and the Non-Federal Sponsor, or with any other party with respect to the subject matter of this Agreement, the Bank is authorized, unless precluded by order of a court of competent jurisdiction, to disburse monies to the Government in accordance with the terms of this Agreement.

9. All notices, requests, demands, and other communications required or permitted to be given under this Agreement shall be deemed to have been duly given if in writing and delivered personally, given by prepaid telegram, or mailed by first-class (postage pre-paid), registered, or certified mail, as follows:

If to the Non-Federal Sponsor:

Rankin-Hinds Pearl River Flood and Drainage
Control District
P.O. Box 320069
Flowood, Mississippi 39232-0069

If to the Government:

U.S. Army Engineer District, Vicksburg
4155 Clay Street
Vicksburg, Mississippi 39183-3435

If to the Bank:
[FULL ADDRESS]

_____
_____
_____
_____

10. Nothing in this Agreement shall be considered as vesting title in the Bank to the amount deposited, except as Trustee for the Non-Federal Sponsor and the Government for the purposes set forth herein. Title to said funds shall not vest in the Government until payment to the Government is made as provided herein.

11. This Agreement shall take effect upon the initial deposit of funds into the Escrow Account by the Non-Federal Sponsor and shall continue in full force until the certification specified in paragraph 5 hereof is received by the Bank and the

balance remaining is returned to the Non-Federal Sponsor, unless earlier terminated by the written mutual agreement of the Non-Federal Sponsor and the Government.

12. This Agreement may not be amended, except by written modification signed by the parties hereto.

IN WITNESS WHEREOF, the Non-Federal Sponsor, the Government, and the Bank have executed this Agreement on the date first above written.

The Non-Federal Sponsor

ATTEST: _____

BY: _____

Chairman, Rankin-Hinds Pearl River
Flood and Drainage Control District

The Department of the Army

ATTEST: _____

BY: _____

District Engineer

The Bank

ATTEST: _____

BY: _____